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Original Articles.

SURGERY OF THE STOMACH.

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It is the intention of this paper to present a brief review of the history and the present status of the surgery of the stomach.

Although gastrotomy for the removal of a swallowed knife was done as early as 1602 by Matthis of Brandenburg, and gastrostomy for stricture of the esophagus was done by Sedillot in 1849, the surgery of the stomach can very properly be said to date from Billroth's successful pylorectomy made in February of 1881. Stomach surgery, therefore, has reached its majority; it is twenty-one years old. It has reached a stage in its development which enables us to estimate its present value and draw conclusions probably approximating the truth. Let us very briefly sketch its history.

A BRIEF HISTORY OF STOMACH SURGERY.

Billroth's successful pylorectomy of 1881 was preceded by an unsuccessful attempt by Pean in 1879, and by Rydygier in 1880. In September of 1881 Wölfler suggested and performed the first gastroenterostomy by making an anastomosis between the anterior stomach wall and the jejunum. This is known as the Wölfler method. In 1882 Loretta introduced digital divulsion of the pylorus for benign stricture. In 1885 Von Hacker performed gastroenterostomy by making an anastomosis between the posterior wall of the stomach and the jejunum. Although Courvoisier had made a posterior anastomosis in 1883, the operation is known as the Von Hacker method.

In 1884 Charles T. Parkes of Chicago made a series of experiments on dogs, showing the feasibility of operative repair of both intestinal and stomach wounds, and this valuable knowledge was almost at once put to practical use. A short time after this Nicholas Senn introduced his decalcified bone plates for intestinal anastomosis, and these were used for a short period quite extensively in doing gastroenterostomy. In 1886 Heineke, and in 1887 Mikulicz, independently of each other, introduced pyloroplasty, which has since been known by their name, the Heineke-Mikulicz operation of pyloroplasty. In 1890 Bircher introduced the operation of gastroplication.

In 1892 Murphy introduced his anastomosis button, which has since then been very extensively used in stomach surgery, both here and abroad. In 1893 Frank introduced the now most generally employed method for gastrostomy. In 1894 Wölfler introduced gastroplasty and gastroanastomosis for hour-glass stomach. In 1894 Jaboulay performed the first gastroduodenostomy.

In 1897 Schlatter performed the first successful complete gastrectomy, although as early as 1883 Connor of Cincinnati had planned and unsuccessfully performed the operation. Comparatively recently Maydl has introduced the operation of jejunostomy as a palliative procedure in stomach carcinoma otherwise inoperable.

In 1880 Mikulicz, then an assistant of Billroth's, operated, but unsuccessfully, for perforating stomach ulcer. In 1892 Heusner operated for the first time successfully for perforating ulcer. Rydygier made the first successful excision of a gastric ulcer as early as 1881. Naturally in the early history of stomach surgery in the eighties and early nineties, the number of operations performed was small, but in the last five years especially this number has increased very rapidly, and we can now find a number of clinics where more than twenty-five stomach operations are done each year. My statements in this paper are based on a study of results of the work in these clinics where stomach surgery has been cultivated and my own rather limited work.

I desire to acknowledge my indebtedness to the reports from the clinics of Czerny, Mikulicz, Wölfler, Von Eiselsberg, on the Continent, the work of Mayo Robson in Great Britain, and W. J. Mayo, Nicholas Senn, John B. Murphy and E. Wyllys Andrews in this country, and for the medical aspects to Hemmeter, Osler and Fütterer. I am also indebted to the very instructive symposium on the surgery of the stomach presented at the American Surgical Association meeting of 1900.

In discussing stomach surgery let us do so under four heads:

1. Operations for malignant disease:
   - *a.* Pylorectomy.
   - *b.* Partial or complete gastrectomy.
   - *c.* Gastroenterostomy.
   - *d.* Jejunostomy.
   - *e.* Gastrostomy for malignant stricture of esophagus.
2. Operations for benign pathologic conditions, especially ulcer and its consequences:
   - *a.* Gastroenterostomy.
   - *b.* Partial gastrectomy; excision of an ulcer.
   - *c.* Repair of perforation.
   - *d.* Pyloroplasty.
   - *e.* Gastroplasty.
3. Operative treatment of:
   - *a.* Perforative wound of stomach.
   - *b.* Subcutaneous rupture.
4. Operative removal of foreign bodies. Gastrotomy.

OPERATIONS FOR MALIGNANT DISEASE.

Pylorectomy and Gastrectomy.—An analysis of results, both immediate and final, of operations done for malignant disease makes mournful reading, although

our improvement in technic has vastly bettered the immediate results as compared with those first obtained; the mortality is still large and the final results in gastroenterostomy and pylorectomy and partial and complete gastrectomy are such as to almost warrant the statement that all operations for malignant disease of the stomach are but palliative, and not curative in character. In view of this fact one is not surprised at the conclusions reached by Reginald Fitz in a recent paper on "Some Surgical Tendencies," in which he practically condemns operative treatment for malignant diseases of the stomach. One may, in the face of the facts, ask himself the question, is it worth while—the short questionable prolongation of life offered to these sufferers? Death is, after all, not always such a dreadful thing; may it not come to these poor victims of carcinoma as a blessing and relieve them from their sufferings? I have often asked myself in watching some of these cases, when I had prolonged the life for three or four months, have I not prolonged, not life worth living, but suffering for that period, and would it not have been better if I had not postponed the inevitable for the few months, but had let the patient pass away earlier with the euthanasia which morphin affords?

And yet, on the other hand, when I have had a patient who, after a pylorectomy for carcinoma, is relieved entirely of her symptoms and gains thirty pounds in weight, and beams with apparent restored health and the happy hope of cure, as I look at that patient I can not doubt that the surgeon's work was in that case worth the while. Following somewhat this line of thought, I have concluded that the hope of the future of stomach surgery for carcinoma lies either in some means to establish a diagnosis sufficiently early to enable the operator to remove widely and completely the disease, or more probably the cure of carcinoma by yet undiscovered means, and that for the present, aside from the necessary exploratory operation, to confirm or make the diagnosis, that operations for carcinoma of the stomach should be limited to such cases as permit of apparent entire removal of the disease, and these cases are at present few in number, and also that in a few well-selected cases a gastroenterostomy is warranted, cases where radical removal is not impossible and still where marked relief for a considerable period may, with some confidence, be expected. As a type of such a condition one might mention a case where there was marked obstruction of pylorus with invasion of surrounding organs preventing radical removal, and still with little invasion of the stomach tissue and with fair general condition of the patient.

Gastroenterostomy.—W. J. Mayo, of Rochester, Minn., who has probably done more work in stomach surgery than any other American surgeon, on analyzing his own results in 21 cases of gastroenterostomy done for carcinoma, says: "I regret to say that, with few exceptions, the palliation has been of such short duration as to hardly justify the operation," and he adds, "The hope of the future for cancer of the stomach is early exploration and extirpation."

Mayo Robson, the recognized authority in Great Britain on surgery of the stomach, in his excellent monograph on surgical treatment of diseases of the stomach, reports 23 gastroenterostomies for malignant disease; of these 10 died and 13 recovered; of these 13 5 are stated as living less than four months. In 8 cases the exact date of death was either not given, or is greater than four months; the longest period stated is nine months, and the reports from the Czerny, Mikulicz and other German clinics give about the same results. My own results in gastroenterostomy for malignant disease have given a large immediate mortality, and unsatisfactory palliation of short duration. Three deaths in eight cases, and short and unsatisfactory palliation in the other five. Chlumsky's statistics give a mortality of 41.6 in gastroenterostomy for malignant disease. When we turn to an examination of the results of pylorectomy and partial and complete gastrectomy for carcinoma, we again meet with discouragement, but with less discouragement possibly than in the results of gastroenterostomy for the same condition.

Analyzing the results of Krönlein, Maydl, Kocher, Rydygier, Czerny, Morrison and Mayo and my own, we find 190 cases, with 50 deaths, about 26 per cent.; 140 recoveries, about 74 per cent., and 17 cases who lived more than three years, about 8 per cent. Some of these, however, already presented recurrences, and some had died later than three years of recurrence, these facts cutting down the cases which we could accept as cured of carcinoma to about 5 per cent., or one in each twenty submitted to radical operation, and even here again comes the doubt as to diagnosis in some of the successful cases. Surely such a showing is one which must make the conscientious surgeon hesitate to urge surgical treatment to a patient suffering from carcinoma, on the ground that such treatment offered much hope of radical cure. The palliation, however, furnished by radical removal is more marked, more satisfactory and more lasting than that furnished by gastroenterostomy, and without doubt the operation produces in a small per cent. of cases a radical cure. Inasmuch, therefore, as the condition calling for relief is necessarily fatal, we are warranted in performing it, and we should not hesitate to advise it in the few carcinoma cases early diagnosed. We are forced to admit that the present-day surgical treatment of carcinoma of the stomach is not satisfactory, and leaves much to be desired; this statement applies, however, with almost equal force to carcinoma in general, and surely one of the greatest discoveries, let us hope that it will come soon, will be that of a successful treatment of malignant disease, and probably when it does come it will be on other than our present surgical lines.

Before leaving the subject of carcinoma, let me emphasize the fact that it is in early carcinoma very difficult for the surgeon, macroscopically, and at the time of operation, to make a differential diagnosis between this and other lesions, such as scar tissue and tuberculosis, and this fact adds sometimes to the difficulties of selecting the proper operative procedure, and also throws doubt on some of our statistics. Both Fütterer and Billings have recently emphasized the fact that carcinoma very often develops in an ulcer, and these cases naturally give a confusing picture, both to the medical diagnostician, as here we are apt to find free hydrochloric acid even in excess, and to the surgeon at the time of the exploratory operation. In some cases the surgeon at the time of operation may find no way of determining conclusively whether he has ulcer or carcinoma to deal with. Even the enlargement of the mesenteric glands can not be relied on as pointing to carcinoma, as Mayo and others have pointed out that we can and do have enlargement of these glands in simple ulcer and other benign lesions.

That mistakes are frequently made is demonstrated by the fact that not infrequently supposed benign obstructions which have been relieved by gastroenterostomy

die later of carcinoma, and, on the other hand, supposed malignant cases which have been supposedly merely palliated by a gastroenterostomy go on to permanent recovery, demonstrating conclusively the benign nature of the lesion.

The operation of complete gastrectomy has now been done a number of times since Schlatter's successful case. Mayo Robson collected from the literature 12 cases; of these 4 died as a result of the operation, and the earliest death of the other 8 was eleven months after operation. These results must be regarded as encouraging, and yet too much confidence should not be placed on these statistics, because without question many unsuccessful cases have not been reported. The operation has to-day a very limited field, and must be regarded as being still in the experimental stage.

Jejunostomy.—This procedure, which was advocated as a rival to gastroenterostomy, has little to recommend it. It certainly should not be employed where a gastroenterostomy would meet the indications, and the cases where the palliation of a jejunostomy is to be preferred to the palliation of morphin and rectal feeding must be extremely rare.

Gastrostomy.—A word in regard to gastrostomy for malignant disease of the esophagus and esophageal end of the stomach. From a limited experience and from an analysis of the literature, I believe that gastrostomy for malignant disease is seldom worth the while, and that the patient, if he could know both the palliation of rectal feeding, dilatation with a soft bougie and morphin on the one hand, and the dangers of the operation, with its almost equally short palliation and unsatisfactory existence, with the feeding through a gastrostomy fistula, on the other, would decide almost invariably against an operation.

OPERATION FOR BENIGN CONDITIONS.

Let us turn now from this glimpse of the distressing picture of carcinoma before which we have confessed the limitations of surgery, to the brighter picture of the surgical treatment of benign lesions of the stomach, and here we find one of the greatest triumphs of modern surgery.

Treatment of Ulcer.—Gastroenterostomy.—Let us review, in the brief time at our disposal, the surgical treatment of ulcer and its complications. Ulcer of the stomach occurs in from 2 to 5 per cent. of the population. The treatment of uncomplicated ulcer is distinctly medical, and probably 80 per cent. will recover under the modern rational medical treatment of rest and rectal feeding. In probably 20 per cent. the ulcer will persist in spite of treatment, or complications occur, either obstruction of pylorus, hour-glass contraction, hemorrhage or perforation. In this 20 per cent. surgical interference should be or must be employed. Uncomplicated ulcer of the stomach which resists properly employed medical treatment should be treated by a gastroenterostomy. The results are very satisfactory, both from the small immediate mortality, which is less than that to be expected from the uninterfered with lesion. Heydenreich states that the mortality from gastroenterostomy in these cases is 16 per cent., and the mortality from the disease 25 per cent. And, again, the patient is usually permanently cured by the procedure.

An argument in favor of the gastroenterostomy is advanced by Fütterer, in a recent article on the origin of carcinoma of the stomach, from chronic round ulcer, where he states that the dangers of a carcinoma developing in chronic ulcers are considerable, and this might be avoided by early gastroenterostomy with cure of the ulcer.

It would appear, at first glance, that a partial gastrectomy, removal of the diseased wall containing the ulcer, should be the operation of choice in these cases. Clinical experience, however, argues quite forcibly for gastroenterostomy; first, because excision of the ulcer gives a higher mortality, and, second, because the gastroenterostomy gives a higher percentage of cures so far as the relief of symptoms is concerned.

Pyloric Obstruction.—Of the three common complications of ulcer demanding surgical interference, obstruction of the pylorus with resulting dilation and often compensatory hypertrophy is the most important and frequent. An analysis of the literature demonstrates that here, again, gastroenterostomy has won for itself the position of the operation of choice. It has supplanted Loretta's divulsion, the Heineke-Mikulicz pyloroplasty and pylorectomy. The Loretta divulsion gave rather brilliant results, but they were but temporary, and such as we might expect; for just as a stricture of the urethra is temporarily relieved by the single passage of a sound and subsequent contraction occurs, so here the divulsion of the strictured pylorus was followed by relief of but short duration, and in almost all cases by subsequent recurrence. In the same way the Heineke-Mikulicz pyloroplasty has been largely discarded because in a considerable per cent. of the cases recurrence follows the rather brief relief of symptoms. The pylorectomy gives a larger mortality and not as good symptomatic cures as gastroenterostomy for benign obstruction of the pylorus, and is not to be employed except to meet some special indication.

Hemorrhage.—The second common complication of ulcer which demands sometimes surgical interference is hemorrhage. Hemorrhage, at the time of its occurrence, is to be treated medically by rest, both general and local, and the use of injections of normal salt solution and possibly combined with chlorid of calcium, with the idea that this may hasten the time of coagulation of the blood, which, in many of these patients, is distinctly slower than normal, and in this way aid in checking the bleeding. The shock present during and immediately following severe stomach hemorrhages is, as a rule, a clear contraindication against immediate operation, and clinical experience seems to show that the medical treatment offers the patient greater chances of recovery than surgical interference. However, a few surgeons advise immediate operation in severe hemorrhages. The choice of operative procedures lies between excision of the ulcer, ligation of the ulcer *en masse,* ligation of the bleeding vessel or vessels, cauterizing the ulcer and a gastroenterostomy. Of these, rather strange to relate, simple gastroenterostomy has given the best clinical results. The excision of the bleeding ulcer has given a high mortality. The ligation of the ulcer *en masse,* with the strengthening of the stomach walls at point of ulcer by Lembert suture, as advised by Andrews, seems a rational procedure, and one which has given fair results in the few cases in which it has been employed.

Rodman collected 13 gastroenterostomies for hemorrhage, with 3 deaths, or 23 per cent. mortality. The analysis of the reported cases would seem to favor the following procedure in cases of hemorrhage demanding an immediate operation: First, a gastrotomy utilized for locating and cauterizing the ulcer. As suggested by E Wyllys Andrews, in *Annals of Surgery,* 1899, the greater part of the stomach can be passed in review be

fore the anterior gastrotomy incision by passing two fingers through the gastrocolic omentum and invaginating the stomach wall into the incision. Then the gastrotomy can be utilized in making a gastroenterostomy. In by far the greater number of cases of hemorrhage, inasmuch as Rodman's statistics show that but 8 per cent. of the cases which bleed die, the treatment of election would seem to be a gastroenterostomy, done in the interval between attacks, when the patient was free from shock. When done at this time, the operation gives very satisfactory results, both immediate and permanent, inasmuch as the gastroenterostomy is usually followed by the healing of the ulcer. Some of these patients suffer from profound secondary anemia. I have had one such case, where the hemoglobin find was but 19 per cent. In such cases a preliminary treatment by rest and rectal feeding, salt solution and iron and chlorid of calcium should be employed for three or four weeks, bringing, if possible, the hemoglobin find above 35 per cent. before operation.

Repair of Perforation.—The third complication of gastric ulcer which I shall discuss is that of perforation. This is a rare complication as compared with stenosis and hemorrhage. Finney has collected 268 cases in the literature which have been operated on; of these 139 recovered and 129 died, giving a mortality of 48 per cent., and of the 21 more recent cases 13 recovered and 8 died, a mortality of but 38 per cent. Tinker's statistics give a mortality of but 16 per cent. in the cases operated on early within twelve hours, and reported within the last three years. This must be regarded as a most brilliant showing, when we remember that without surgical relief perforating gastric ulcer gives a mortality approaching 100 per cent., and that practically we are entitled to regard each case recovering under surgical operation as a life saved by the procedure. The picture of perforation is, as a rule, one easily recognized, both by the competent internist and the competent surgeon, and if it is confusing, it is only to be mistaken with other serious lesions, such as acute pancreatitis and rupture of the bile tracts, which also call for immediate operation. A careful analysis of the facts demands an immediate exploratory operation in cases of suspected perforation of stomach ulcer. Frequently this can best be done under infiltration anesthesia. In the single case of stomach perforation on which I have operated I employed a general anesthetic, ether. I operated within five hours after perforation, and, in spite of the fact that the patient was in extreme shock and that the general peritoneal cavity contained at least a quart of stomach contents and peritoneal fluid, the patient made an uninterrupted recovery. The method of procedure will vary with the conditions found, but as a general proposition will consist of locating the perforation and closing the opening, without resection of the ulcer, with a double row of Lembert sutures, and then, if the condition of the patient warrants, a gastroenterostomy is made with the purpose of permanently curing the lesion. The escaped fluids are removed by irrigation of the peritoneal cavity with warm salt solution, and closure of the abdominal wall with, as a rule, provision for drainage down to the point of closure in the stomach wall, and often of the general peritoneal cavity. A discussion of the many complications of perforating gastric ulcer, such as perigastric abscess and subphrenic abscess, empyema, phlebitis, etc., would require more time than we have at our disposal. I would refer you to Mayo Robson's paper, read last year by invitation before the American Surgical Society, for a clear exposition of these subjects.

Hour-Glass Contraction of the Stomach.—Gastroplasty.—This condition may be congenital or the result of contraction following ulcer or other lesion. The condition is one usually not diagnosed before operation, as the symptoms resemble closely those of obstruction of the pylorus. I have operated on but one such case, and am rather inclined to believe that in that case I had to deal with a simple ulcer occurring in a case of congenital hour-glass stomach. Where hour-glass stomach produces symptoms warranting surgical interference, a gastroplasty or gastroanastomosis establishing a very free communication between the two stomach pouches, combined with gastroenterostomy, where we find evidences of obstruction of the pylorus also present, is the procedure indicated. Watson has collected from the literature 20 cases of congenital hour-glass stomach; 20 cases of hour-glass stomach of the acquired type not operated on, and 29 cases of hour-glass stomach submitted to operation. Of these, 3 were handled by a gastroenterostomy, no deaths; 17 gastroplasty, with 3 deaths; 6 cases, a gastroanastomosis, 1 death; inversion of ulcer, 1 case, 1 death; establishing gastric fistula, 1 case, 1 death. The gastroplasties referred to are practically made on the same principle as the operation of pyloroplasty, and the gastroanastomoses are practically lateral anastomoses between the two pouches. After a careful analysis of the reported cases, including his own, Watson concludes that gastroanastomosis should be the operation of choice.

OPERATION FOR WOUNDS AND RUPTURE.

Let us now turn to the surgery of perforating wounds of the stomach and subcutaneous rupture of the stomach.

Perforating Wounds.—Immediately following the experimental work of Charles T. Parkes, in 1884, and the work of Nicholas Senn, which shortly followed, surgeons generally accepted the dictum that all perforating stomach wounds should be immediately submitted to operative repair, and for some years little exception was taken to this opinion. An analysis of this subject, especially in view of the experience obtained by military surgeons in our late Spanish war and in the present South African war, has compelled us to adopt a somewhat different view of these cases. We were for a while working under the mistaken view that penetrating wounds of the stomach were so generally fatal that the cases recovering under operative procedures were to be regarded as cases saved. The Spanish and South African wars have shown conclusively the fallacy of this reasoning, because the perforating stomach wounds made by the modern military rifle, carrying a small-calibered bullet with great velocity, have not been very fatal; when let alone, the large majority of the cases recovered, but when operated on the large majority died. We can, therefore, no longer accept the dictum that penetrating wounds of the stomach must be immediately operated on. At least, this rule can not be applied to military practice. In civil practice, as a rule, bullet wounds of the stomach are made with revolver bullets, made of soft lead and of low velocity; these produce a more ragged wound with greater danger of leakage than the metal-jacketed, small-calibered, high velocity bullet of the modern military rifle, and from this fact most of the surgeons, who have studied closely the facts, still advise an immediate exploration in penetrating wounds occurring in civil practice. Personally, I am inclined to accept the same views, and yet we must admit that the treatment of penetrating wounds of the stomach can no longer be regarded as a closed chapter,

and that it is quite possible that a wider experience will limit still further operative treatment in these cases.

Subcutaneous Rupture of the Stomach.—This is a condition which calls for immediate operative repair, provided that the traumatism causing the rupture has not produced other serious lesions which make any interference hopeless. A few cases of rupture of the stomach from over-distention are reported, most of them found at postmortem; if diagnosed the indications for operation are, of course, imperative. A few cases of acute ulcer following trauma have been noted. Rupture of the stomach may be limited to one or more of the layers of the stomach walls, and occur without extravasation of the stomach contents. An interesting case of this kind was recently reported at the Chicago Surgical Society by Carl Beck, where, as a result of trauma, a cicatricial stenosis of the pylorus demanded a gastroenterostomy.

OPERATION FOR FOREIGN BODIES.

Lastly, perforations of the stomach may be caused by the passage of esophageal bougies, sword-swallowing, and from the accidental or intentional swallowing of knives, nails, screws, pieces of glass, etc., as has occurred in the insane and among the museum performers who make a business of swallowing such articles. In this same connection should be mentioned the operative removal of swallowed and retained foreign bodies which give rise to symptoms. My own experience has been limited to a single case of this kind, where a gastrotomy for the removal of a swallowed hat-pin was easily performed. It is in such cases that the *x*-ray can be employed with great advantage in making a diagnosis. In my own case I tried to convince the parents of a three-year-old child that it was impossible for the little patient to swallow a rigid steel hat-pin six and a half inches in length. The *x*-ray, however, showed the pin clearly, the head being in the stomach and the shaft in the esophagus. The experience with the Murphy button has taught us one interesting fact in regard to foreign bodies in the stomach, and that is that they may be tolerated for years without producing any injury or any symptoms. A large proportion, from one-fourth to one-half, of the Murphy buttons used in performing gastroenterostomy fall back into the stomach and remain there permanently; out of the now hundreds of cases in which this has occurred, very few have given rise to any disturbance or symptoms. In view of this fact we should hesitate to urge a gastrotomy for a foreign body, such as a tin whistle, or coin, or other body of smooth contour, which was not giving rise to symptoms. However, the operation of gastrotomy for the removal of a foreign body, where no complications exist, can be done with but slight risk to the patient.

THE OPERATIVE PROCEDURES DESCRIBED.

The technic of the operative procedures employed in stomach work has reached a stage of development which, although not perfect, is very satisfactory; so satisfactory, indeed, that the old great danger of this work, i. e., peritonitis, has been largely eliminated. Let us describe the purely surgical management of these cases under the following heads:

1. Preliminary preparation of the patient.
2. Question of anesthesia.
3. Operative technic.
4. After-treatment.
5. Complications.
6. Causes of death.

Preparation of the Patient.—The preliminary preparation of the patient involves, in addition to that necessary for other laparotomies, two special points. First, the point already referred to, that many patients demanding stomach operations are the victims of severe secondary anemia, and in these cases, where the hemoglobin find is below 35 per cent., if there is any possibility of increasing it to this point, or above, by three or four weeks of iron feeding and rest, this should be done before attempting the operation. In cases of benign disease this is usually possible. In cases of malignant disease, such secondary anemia usually shows that the case is inoperable, and when it is still operable, such attempt to correct the secondary anemia means usually valuable time wasted.

The second point in preliminary preparation is most important, and it is the complete emptying of the stomach immediately before operation. This must never be omitted, if possible, and must be most thoroughly carried out by competent hands. I have lost one case on the operating table because this step in the preparation, although attempted, had not been successfully performed. While the patient was being anesthetized she vomited large quantities of material from a greatly distended stomach, and drowned herself in spite of every effort to resuscitate her. A number of similar cases are reported, and this must be regarded as a quite possible accident, and must be most carefully guarded against. In addition to the dangers of drowning, a considerable amount of fluid in the stomach at the time of operation adds to the difficulty of keeping the peritoneal cavity clean and to the dangers of peritonitis.

The Question of Anesthesia.—Shall we employ a general or a local anesthetic? For a time a number of surgeons were rather enthusiastic over the use of infiltration anesthesia in stomach surgery, and some still are. There can be no question but that it is fairly satisfactory, and can fairly claim a certain limited field for itself. However, the special reason advanced for its employment in stomach surgery has been shown by trial to be erroneous, i. e., that it would eliminate the occurrence of one of the chief causes of death after stomach operations—pneumonia. Surgeons were inclined to regard these pneumonias as aspiration, chloroform and ether pneumonias. A considerable trial with the local anesthetic has shown, however, that fully as many pneumonias develop after operations done with cocain as after operations done under general anesthesia. This is certainly a very interesting fact, and leads one to the conclusion that these pneumonias are to be regarded as terminal infection pneumonias, made possible by the lowered resisting powers of the patient, and not to the use of a general anesthetic.

The operative technic can be fairly fully presented if we describe the technic of gastroenterostomy, pylorectomy, gastrostomy and gastrotomy.

Technic of Gastroenterostomy.—In gastroenterostomy the questions to be answered are, shall we use suture or button, and shall we make an anterior or posterior operation? I quite agree with Mayo, it does not make much difference, provided the operation is well done, whether we use button or suture, or whether we make an anterior or a posterior operation. My own preference, however, is an anterior operation with suture, and for these reasons: First, the anterior operation is the simpler and easier, and, as has been so well emphasized by Mayo, if we make the anastomosis at the lowest point of the anterior wall of the stomach, close to the greater curvature, the opening will be at about the same point as

a properly made posterior anastomosis, and will be at the lowest point of the stomach, thus securing the best drainage. I employ suture because, in spite of the fact that such excellent results have been obtained with the button, my analysis of the literature shows that now equally good results are being obtained with the suture. Again, in spite of the fact that a button retained in the stomach seldom gives rise to symptoms or complications, it nevertheless does sometimes do so, and as stated we know that from 25 to 50 per cent. are permanently retained. Again, the argument of saving time by the use of the button no longer carries very much weight, as with a little practice the anastomosis with suture can be made in about fifteen minutes. The argument that an anterior anastomosis is more apt to be complicated with the development of a "vicious circle" does not seem to be borne out by the comparison of cases of anterior anastomosis made at the lowest point with posterior anastomosis. In the early history of gastroenterostomy, when most of the cases were anterior operations, the mistake was made of making the anastomosis about midway between the lesser and greater curvatures, and as we might now expect a considerable number of cases develop vicious circle.

Taking all the facts into consideration, the simplest and best method of making a gastroenterostomy is to make the anastomosis between the lowest anterior point of the stomach and the jejunum, about eighteen to twenty inches from its beginning; unite three and a half inches of the bowel to the stomach; this prevents angulation and spur formation; make the opening one and a half to two inches in length; unite with two layers of continuous suture, the first layer including all the coats of the bowel, the second a continuous Lembert suture; silk, not too fine, seems preferable, although I can see no objection to using fine catgut for the Lembert suture. The two rows of simple continuous sutures, the first including all coats, the second a Lembert, to my mind, have solved the problem of all stomach and intestinal wound closure. Such continuous sutures are very easily applied; they effectually guard against leakage, and they bring all the layers into accurate approximation. The interrupted suture has no place in stomach work. It is difficult to employ it. It does not guard against leakage effectually, and, as often used, does not approximate the mucosa accurately, and the clinical results obtained are distinctly bad as compared with the results secured by the continuous suture. Whether an enteroanastomosis should be made is a question which has been answered in the affirmative by the Wölfler clinic. Personally, I have not employed it. Mayo says on this point: "In the future we will make an enteroanastomosis in every case in which gastroenterostomy is performed, if there is no obstruction to the pylorus." He comes to this conclusion from an analysis of his own cases, which showed that "vicious circle" developed only in those cases where the pylorus was not obstructed, and did not occur in any case of distinct obstruction. I am inclined to believe that his point is well taken, and shall give his advice a trial. The Y-shaped gastroenterostomy of Roux is anatomically the more perfect operation; it has, however, the great disadvantage of being long and tedious and is not therefore to be generally recommended.

Technic of Pylorectomy.—In making a pylorectomy we have practically the choice between the Kocher and the second Billroth method. I regard the second Billroth method as the operation of choice, because it enables us to remove the lesion as extensively as we may desire, and is easy of performance. After ligating off the omentum above and below the pylorus to the desired extent the portion to be removed is included between clamps and the duodenum and stomach beyond are closed with clamps. The duodenum is closed by invagination with a purse-string suture, and the stomach closed with the double layer of continuous suture above described. The simple anterior gastroenterostomy is then made, completing the operation. The Kocher pylorectomy has given excellent results, but it can not well be employed where a great amount of stomach tissue is removed. In the Kocher operation the diseased pylorus and portions of duodenum and stomach are removed, the stomach wound closed by two rows of sutures and the duodenum approximated to the posterior wall of the stomach, making an end-to-side anastomosis.

Technic of Gastrostomy.—The gastrostomy of Frank, made by pulling up a nipple-like process of the stomach through an opening in the split rectus, suturing the base of the process to the peritoneum and sheath, and bringing the apex out through a small opening in the integument an inch removed from the original incision, gives excellent results, both from the standpoint of immediate mortality and from the standpoint of obtaining a fistula lined by epithelium, and one which will not leak. It is the operation of choice. In some cases, however, it can not be used, as the stomach is too small and contracted. Here either the Senn method or Witzel method of obtaining a competent fistula should be employed.

Technic of Gastrotomy.—Little need be said of the technic of gastrotomy, but I think that little of importance; it is simply the advice to use the double row of continuous sutures in the closure.

After-Treatment.—The after-treatment to be employed in all cases of stomach surgery, except gastrostomy, should be rest to the stomach, obtained by rectal feeding for, if possible, six or seven days. Four ounces of peptonized milk every four hours and twelve ounces of salt solution every four hours, alternating injections therefore every two hours. As a rule, these are well borne. If they are not, however, liquid diet in small quantities can be begun earlier. I am inclined to believe this is the safer plan, although some surgeons begin feeding as soon as they recover from the effects of the anesthetic. The recumbent position is to be maintained, as a rule, for twelve days. Some surgeons adopt a semi-recumbent position, with the idea that it will reduce the dangers of pneumonia. The point is well worth consideration. Mayo uses buried silk in closing the abdominal wound in malignant cases, and allows the patient to sit up within a day or two and leave the hospital within a week.

The most frequent causes of death in stomach surgery are pneumonia, vicious circle, peritonitis, perforation of carcinoma or ulcer, shock and drowning from vomited stomach contents. Our time will hardly permit an analysis of these conditions, an example of each of which has occurred in my own work. Let me here merely call attention to this surprising and interesting fact, that in clinics where stomach surgery is extensively practiced peritonitis is no longer the common cause of death, but is, in fact, an unusual accident. This fact shows clearly the high degree of efficiency against leakage reached by our present methods of closure of stomach and intestinal wounds.

CONCLUSION.

Permit me, in closing, to make a plea for a wider application of surgical procedures to lesions of the stom-

ach. Disappointing as is the surgery for malignant disease, yet it is to-day our only ray of hope in these cases. Certainly the surgery of benign lesions has given us brilliant results and accomplished much good. It is capable of doing much more good than it is doing to-day. In almost every community cases of ulcer of the stomach die from obstruction, perforation or hemorrhage, which could be saved by timely operative procedure. These cases are entitled to the benefits of modern surgery, and they can obtain it if the surgeon can convince the general practitioner of the possibilities for good in such radical treatment. These cases are on the borderland between medication and surgery, and the best results, the greatest good can be obtained only by the helpful co-operation of the surgeon and physician; not by indiscriminate operating, nor by protracted routine medical treatment, but by the judicious selection of the treatment required to cure the individual case.

ACUTE ARTICULAR RHEUMATISM.

THE STATISTICS OF A SERIES OF 270 CASES FROM THE SERVICE OF DR. OSLER IN THE JOHNS HOPKINS HOSPITAL.*

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BALTIMORE.

The cases in this series are those of acute articular rheumatism which have been admitted to the medical service of the Johns Hopkins Hospital during a period of thirteen years (1889-1902). During this period the total medical admissions were 14,567, and of these 294 were for acute rheumatism, which equals practically 2 per cent. These 294 admissions represent 270 patients, some of them being admitted several times in different attacks. During the same period there were 54 cases diagnosed as subacute rheumatism, 39 as chronic rheumatism, 35 as gout, and 86 as arthritis deformans. The figures from the Montreal General Hospital have been sent me by Dr. Campbell Howard. In a period of 10 years (1891-1901) among 9,992 medical admissions there were 388 for acute articular rheumatism, which equals 3.8 per cent. During the same time there were 154 cases of subacute rheumatism. A comparison with the figures of some of the London hospitals is interesting. In St. Thomas' Hospital, during a period of ten years (1890-1899), there were 18,998 medical admissions, of which 997 were for acute rheumatism, which equals 5.2 per cent. In St. Bartholomew's Hospital, for a period of thirteen years (1888-1901), there were 31,085 medical admissions, of which 1,241 were for acute rheumatism, nearly 4 per cent. Church[1] gives figures for various London hospitals which give the proportion of acute rheumatism as being from 3.5 to 7 per cent. of the total admissions. There is probably little doubt that this disease occurs less frequently with us than it does in England. It may be said that in this series any doubtful case has been classified as subacute rheumatism.

INCIDENCE.

Sex.—Among the 270 cases there were 198 males and 72 females, a proportion of 2.7 to 1. This is almost exactly the proportion of males to females in the medical admissions.

Color.—There were 223 white and 47 colored, a ratio of 4.8 to 1. The proportion in all admissions of white to colored is about 7 to 1.

Age.—The number of cases and percentage in each decade are as follows:

Age.	Cases.	Percent.	Age.	Cases.	Percent.
1-10	7	2.6	41-50	36	13
11-20	70	26	51-60	15	5
21-30	93	34	61-70	3	1
31-40	46	17			

It has to be kept in mind that we have a comparatively small number of children admitted to the wards. Nearly 20 per cent. of the patients were over 40 years of age. The oldest patient was aged 66 years.

Occupation.—Only 93, or 36 per cent., worked out of doors and were therefore usually exposed to weather. This group comprises laborers, drivers, stevedores, etc. Of the others, 25 per cent. of the total were engaged in house work, 11 per cent. were mechanics, carpenters, etc., 10 per cent. were attending school, 10 per cent. were barbers, tailors, etc., and only 8 per cent. were in the higher walks of life, merchants, etc.

Time of Year.—The incidence in the various months is as follows:

Month.	Cases.	Percent.	Month.	Cases.	Percent.
January ...	23	8.5	July	19	7
February ..	36	13.3	August	11	4
March	35	12.9	September .	8	3
April	38	14	October ...	11	4
May	39	14.4	November ..	11	4
June	22	8	December ..	17	6

It will be noted that 55 per cent. of the cases occurred in the four months, February, March, April and May, and that three-quarters of the total number were in the first six months of the year. This is in direct contrast to the figures from the London hospitals, where, as Church points out, the maximum is in the autumn months, September, October and November. Prevalence in the spring months has been noted in Montreal by Howard.[2]

Family History.—A family history of rheumatism was given in 69 cases, which equals 25.5 per cent. It was about equal on the father's side, mother's side and in the immediate family. No special relationship between a family history of rheumatism and an especially severe attack could be made out. There was a family history of tuberculosis in 39 cases, which equals 14.5 per cent. Rheumatism and tuberculosis were associated in the family history in 12 cases. There was a family history of gout in 2 only. Of course, it is to be kept in mind that a family history of "rheumatism" might be more correctly termed one of arthritis. Other than true rheumatic arthritis is usually included by patients under the general heading of rheumatism.

Previous History.—This was practically negative in 66, or 25 per cent. There was a history of previous acute articular rheumatism in 121, or 45 per cent. Patients had tonsillitis previously in only 10 instances, which equals 3.7 per cent., and gave a history of chorea in only 7 instances, which equals 2.6 per cent. There was a previous history of both tonsillitis and chorea in only one instance. These figures appear to be rather small when we consider the generally accepted view that tonsillitis and chorea are so intimately associated with rheumatism. There was a previous history of lues in 12 cases. Fairly marked alcoholic history was given in a rather large number, nearly 39 per cent., all of whom had been moderate or heavy drinkers. It is of interest to note that a very much larger percentage of all our cases of gout gave a marked alcoholic history. The number of the attack with which the patient was first admitted is given as follows:

* Read at the Fifty-third Annual Meeting of the American Medical Association, in the Section on Practice of Medicine, and approved for publication by the Executive Committee: Drs. Frank A. Jones, George Dock and J. M. Anders.

1. Church: Allbutt's System of Medicine, vol. iii.

2. Howard: Pepper's System of Practical Medicine, vol. ii.

Attack.	Cases.	Percent.	Attack.	Cases.	Percent.
First	140	52	Fifth	3	1
Second ...	72	26.6	Sixth	1	.3
Third	26	9.6	Uncertain ..	18	6.6
Fourth ...	10	3.7			

It will be noted that 52 per cent. of our cases were admitted with the first attack. In the cases from St. Thomas' Hospital previously noted, 54 per cent. were admitted with the first attack and 27 per cent. with the second attack.

Age at the Time of First Attack.—This was known definitely in 255 cases. It will be seen that in three-quarters of the patients the first attack occurred below the age of 30. It is interesting to note, also, that in over 11 per cent. the first attack occurred after the age of 40. In 3 per cent. the first attack was over the age of 50, which is to be noted in connection with the statement sometimes made that acute articular rheumatism never occurs for the first time after the half century is passed. In our oldest case the initial attack was at the age of 66. The figures are as follows:

Age.	Cases.	Percent.	Age.	Cases.	Percent.
1-10	22	8.6	41-50	22	8.6
11-20	93	36.4	51-60	7	2.7
21-30	76	29.8	61-70	1	.3
31-40	34	13.3			

Complaint Made by the Patient.—Arthritis was complained of by 167, "rheumatism" by 84, various other symptoms by the remainder. It is of interest to note that of these 6 complained of sore throat, 2 of chills and 2 of chorea.

Onset.—There was a definite history of exposure to wet or cold immediately before the onset of the attack in 32 cases, or 12 per cent. Arthritis was the first symptom noted by the patient in 194 cases, or 82 per cent. Chills at the onset occurred in 18 cases, practically 6 per cent. This is rather an interesting point, as little stress is usually laid on chills at the beginning of rheumatic fever. Tonsillitis was the symptom of onset in 10, in only one of which was it associated with chill. Various other symptoms were first noted in a few cases, such as fever, sweating, nose bleed, skin rash, etc. There was only one instance in which trauma was an apparent etiologic factor. This patient was struck on the shoulder by a piece of timber and was severely injured. The next day other joints were involved with arthritis, but not the injured one, which escaped entirely.

SYMPTOMS.

Arthritis.—This, of course, was by far the most prominent symptom and was present in every case of the series. It is of interest to note the relative frequency with which the joints were involved. Taking all the cases the knee was involved far more frequently than any other joint, viz., in 142 cases, or 53 per cent. The ankle was next, in 88 cases, or 33 per cent. As is usually the case, the lower extremity was involved more frequently than the upper extremity; in this series in a proportion of about four to three. The order of frequency of involvement of the joints is as follows: knee in 142, ankle in 88, shoulder in 75, wrist in 62, elbow in 54, hip in 52, the hand in 47 and the foot in 42 instances. It is interesting that in all the joints of the lower extremity both sides were more often involved than one alone; for example, in the case of the knee more patients had both knees involved than one. In all of the joints of the upper extremity the contrary was the case; one wrist, for example, was much more often involved than both. Fluctuation was noted in the joints in 47 cases.

Fever.—The average duration of fever in 254 cases was 12 days. It is, however, to be kept in mind that a certain number of the cases were admitted late in the disease, and in some of these the fever dropped very rapidly after admission. The fever persisted for a period of over four weeks in 26 patients, the longest duration being ten weeks, which occurred in two patients.

In studying the temperature records there are two types of cases which rather stand out, as has been noted before in studies of series of cases, those in which the temperature is perhaps at an average of about 103 for a few days and then rapidly goes down to normal, and those in which the temperature is never so high, perhaps averaging only 101, but continues elevated for a very much longer time. The joint symptoms in these two cases may be identical. In many cases these persisted after the temperature had fallen to normal. There was no instance of hyperpyrexia in the series. In only 10 cases was the fever above 104. In only 29.5 per cent. did it reach 103 or over. This leaves 70.5 per cent. of the cases with a temperature not above 102.5. There is a fairly general impression among those who have had hospital experience, both in the north and in Baltimore, that the general type of rheumatic fever in the latter place is not so severe. Certainly one does not see the very severe acute types of the disease so frequently as in the north.

There are various symptoms of common occurrence, such as general malaise, loss of appetite, sweating, constipation, etc. These require no special consideration.

Cardiac Conditions.—These, of course, are of special interest and are worthy of being considered in some little detail. It is convenient to divide the cases into three groups: (1) those cases in which the heart sounds were clear throughout; (2) those in which there was no question of the presence of an organic cardiac lesion, and (3) a group of doubtful cases in which it is very difficult to say how much cardiac involvement was present.

1. *Cases with Clear Heart Sounds.*—Of these there were 100, or 38 per cent. In 86 of these there was throughout no departure from normal conditions. In 6 there was a reduplication of the second sound at the base on admission, but no murmurs were made out at any time. In 4 there was reduplication of the second sound at the apex on admission, but no murmur was made out at any time. In 2 there was pericarditis, but the sounds were unchanged; in 1 there was gallop rhythm on admission, and in 1 marked irregularity of the heart's action on admission, both disappearing later. As these cases were all discharged with perfectly clear heart sounds and no other signs of cardiac involvement they may be regarded as practically having escaped. Of course, it may be said that myocarditis was present in the cases with gallop rhythm or marked irregularity. This may be the case, but on discharge they showed no signs of any cardiac affection either valvular or muscular.

2. *Cases with Undoubted Organic Lesions.*—In this group there were 85 cases, or 32 per cent. In 95 per cent. of these the mitral orifice was involved and in 23 per cent. the aortic orifice. In 18 per cent. both the aortic and mitral orifices were involved. In the St. Thomas series out of 535 cases the mitral valve was involved in 97 per cent. and the aortic valve in 12 per cent. It is interesting to note that in our series the aortic valve was involved in practically double the relative number of cases in the St. Thomas series. One would be inclined to say from general impression that the reverse might have been expected because the writers on cardiac disease in Great Britain lay rather

more stress on rheumatic involvement of the aortic orifice than is usually done in this country. Of the 85 cases with organic valvular lesions mitral insufficiency was found in 54, mitral stenosis in 3 and mitral stenosis and insufficiency together in 8. This gives 76 per cent. of all cases with the mitral valve alone involved. Mitral insufficiency with aortic insufficiency occurred in 12; mitral insufficiency and aortic stenosis in 1; mitral stenosis and aortic insufficiency in 1. In 2 double lesions of both aortic and mitral orifices were thought to be present and in only 4 cases pure aortic insufficiency without mitral involvement. This gives a percentage of 4.7 for an aortic lesion alone. In the St. Thomas series the aortic orifice alone was involved in 3 per cent. It may be noted that so far as known no case of ulcerative endocarditis occurred in this series.

3. *Doubtful Cases.*—In this group are 78 cases, or 28 per cent. Of these 60 were discharged with a cardiac murmur present, the exact nature of which was doubtful. In 18 there was a murmur present at some time during the course of the disease, which disappeared and the patients were discharged with clear heart sounds. These latter cases are included with this doubtful group because it is impossible to say just how much involvement of the endocardium there had been. It may be said that practically the only sign of cardiac involvement in all the cases of this series was the murmur. The heart was not enlarged, its rate was normal, there was no thrill or any other sign suggesting cardiac disease. By far the largest division of these 60 cases is that in which the first sound was heard at the apex accompanied by a soft murmur, not carried to the axilla and not heard over the base of the heart, while the second pulmonic sound was not accentuated. There were 24 cases in this group. In 3 additional cases the only difference was an accentuated second pulmonic sound. In 3 others a reduplicated second pulmonic sound was present only on admission. In another group comprising 6 cases the first sound was heard at the apex accompanied by a soft systolic murmur heard out as far as the mid-axilla. In 8 cases there was a soft systolic murmur at the apex not carried to the axilla, but heard over the body and in the pulmonic area. In 5 cases the first sound was heard at the apex accompanied by a soft murmur not carried to the axilla and not heard over the body, but present in the pulmonic area. In 8 cases the first sound was clear at the apex, but there was a soft systolic murmur heard only in the pulmonic area. In 2 cases the first sound was clear at the apex, but there was a soft systolic murmur over the base. Of the 11 cases in which a murmur was heard at the base or in the pulmonic area only, one would be inclined to say that the murmur probably did not mean any definite cardiac involvement, and this especially in the cases where it altered with a change in position. In reference to the larger group of 49 cases, in which the principal feature was a soft systolic murmur heard at the apex, one has more difficulty in arriving at any sure conclusion. In many of them probably only time enables one to know with certainty. In some instances patients were discharged with a murmur thought to be only functional, but returned subsequently with undoubted signs of an organic lesion. Others, again, who went out with a suspicious condition returned with a normal heart and clear sounds. It may be noted that cases like those here described occurred in the group in which the murmurs appeared and disappeared under observation.

In the second division of this group are 18 cases in which there were murmurs which appeared and disappeared while the patient was under observation, the heart being otherwise perfectly negative. In 7 of these there was only a soft systolic murmur at the apex which was not carried to the axilla. This murmur persisted for periods varying from 2 to 14 days. In 1 case it was accompanied with pericarditis, in 1 other case with pericardial effusion. In 7 cases there was a soft systolic murmur at the apex, which was carried to the axilla and also heard in the pulmonic area or over the body. This murmur persisted for periods of 10 to 30 days. In 2 cases a soft systolic murmur was heard only in the pulmonic area, and in 1 only over the body of the heart.

The conditions that occur in the course of an acute rheumatism which may cause these murmurs are various. The most important are (1) fever, (2) toxemia, (3) anemia, (4) myocarditis, (5) dilatation and (6) endocarditis. The first two are probably often operative in the early stages of the disease and may have been a cause in some of the cases in which the murmur cleared up with the subsidence of the acute symptoms. But they hardly explain a murmur which persists, unless we believe that they may mean more or less permanent change, most probably in the heart muscle. Anemia may have been a factor in some instances, but was not a prominent one. The incidence of myocarditis is difficult to estimate. It would be impossible to give any positive symptoms and signs for minor grades of it. Yet the toxemia of acute rheumatism may affect the heart muscle more than we imagine. Dilatation of the heart stands in much the same relationship. It was possible to recognize its presence in some cases, but how frequently the lesser degrees occur would be impossible to state. Yet it may be taken for granted that few of the patients were discharged with any degree of dilatation, and hence while it may explain some cases of temporary murmur, it does not explain the cases with more or less permanent murmur. Endocarditis is probably the most important factor in the production of these murmurs. How extensive this process may be in such cases we are unable to say, but it is quite possible that in many of this group there were small vegetations near the margins of the mitral segments. Such may be associated with but little actual regurgitation of blood and be of but little immediate importance. These vegetations may be gradually absorbed until only smooth elevations remain. How far such cases may undergo a gradual progressive change in the valves, with subsequent marked regurgitation, without any definite further rheumatic infection, is a question. But we must remember the tendency to slow progressive sclerotic changes under any circumstances. It would seem reasonable to suppose that in any event a subsequent attack of rheumatism would find such valves more readily affected. When we remember that in some cases with undoubted acute endocarditis a murmur may only appear late or not at all, the difficulties in the exact diagnosis of endocarditis are evident. The symptoms and physical signs may be very variable and uncertain. These murmurs are probably akin to those transitory ones noted in chorea. A positive verdict as to the exact nature of many of them can only be reached by time. Yet in general terms it would seem reasonable to suppose that in many of these cases the slowly advancing process leading to definite change in the mitral valves has begun, and that years later such patients come again under observation with the undoubted signs of organic mitral disease.

The question of the treatment of these cases is an important one. How long should such a patient be kept

in bed and at rest? Certainly until as many as possible of the etiologic factors noted before can be excluded. It is in our power to do this usually in the case of fever, toxemia, anemia and dilatation, but in a less degree with myocarditis. As to endocarditis we can speak with little certainty. The only safe rule is to consider them all as possible cases of this condition. We have treated these cases much after the method so strongly advised by Caton.[3] The first essential is, of course, prolonged, complete rest. How difficult this is in private practice and how often impossible in hospital work we all know. The average hospital patient will rarely consent to remain at rest after the acute symptoms have subsided. With children it is not easily done. The second is the application of small blisters over the precordia. We believe this to be often of considerable value in all the cardiac complications of rheumatism. The third is the administration of sodium or potassium iodid in small doses for some time.

It may be said in reference to the present series that of the 85 cases with definite organic disease on discharge, in 5 this developed under observation. In the remainder the murmurs were present on admission. Of these 5 cases in 3 the attack was the first, in one the second and one had numerous attacks in childhood, but had been free for 23 years before the present attack. All these patients were over 20 years of age. Of the 60 cases with a doubtful murmur on discharge, in 4 this came on under observation, 3 being in the first attack and one in the second.

To sum up, it seems reasonable to suppose that in many of the cases classed as "doubtful" there had been some changes in the mitral valves likely to be progressive. Such patients years later will probably be found to have organic lesions.

Murmurs Which Developed Under Observation and Which Persisted.—There were 9 cases in this group. Of these 5 were regarded as cases of definite organic lesion, all being mitral insufficiency. Two of these came on within a period of 24 hours; that is, from perfectly clear heart sounds a murmur developed in one day which was permanent. In one case the first change noted was reduplication of the second sound in the pulmonic area. In a few hours this was followed by murmurish quality of the first sound at the apex, which rapidly became a positive murmur. In the other case within a few hours the transition was noted from a clear first sound to a murmurish quality and very soon a definite murmur. It is worthy of note that in all these cases the pulse was not affected in any way that could be made out at the time of development of the murmur. It was little above normal in any of them. The remaining four of these nine cases were doubtful and are included in the third group given before.

The influence of the age of the patient at the time of the first attack is a well-known factor in the development of endocarditis. The comparison of the ratios of the cardiac conditions is given for two periods, below and over the age of 20 years. The large percentage of doubtful cases is to be regretted, but there seems no other way of disposing of them:

Age at First Attack.	Heart Clear.	Organic Lesion.	Doubtful.
Below 20 years....	33.6%	44.5%	21.8%
Above 20 years....	50	21	29

The comparison is striking, and the nearly double percentage of the cases with organic lesion in those with the first attack below 20 years is to be noted.

If the cases be arranged by decades the high percentage of cases with organic lesion in those coming within the first ten years is very marked. The figures give the percentages:

Age at First Attack.	Heart Clear.	Organic Lesion.	Doubtful.
1-10	18	64	18
11-20	37	40	23
21-30	46	18	36
31-40	41	12	47
41-50	60	24	16
51-70	25	37	38

Pericarditis.—This occurred in 16 cases, or 5.9 per cent. These figures agree fairly closely with those of the St. Thomas series, namely, 6.1 per cent., and the figures from the St. Bartholomew series, namely, 7.5 per cent. These percentages are very much lower than those given by the older writers on the disease, the most common explanation given for the diminished frequency being that it is due to the use of salicylates. The age of the patients with pericarditis varied from 12 to 51 years, 6 were below the age of 20 years and 10 over it. Contrary to the experience of many writers, relatively few cases, only 3, occurred with the first attack, 7 occurred with the second attack and 5 with the third. As to the time of onset of the pericarditis the earliest was on the fifth day, the patient being admitted with the pericardial rub present. The latest time of onset in the disease was on the 61st day in one case. All but two were within the first four weeks. There was one case with pericardial effusion present on admission. The duration of the pericardial rub was very variable. The shortest period was five days, when effusion occurred. The longest period was 18 days, observed in two patients. Delirium occurred with pericarditis in only one case. This is rather surprising, considering the emphasis which is usually laid on the association of the two conditions. The temperature did not go above 102 in 9 of the patients, in 2 being below 101. In 3 it was irregular, not going above 103, in 2 not above 104, and in only 1 reached 104.5. The pulse rate was below 100 in 2 cases, went up to 115 in 4, up to 125 in 5, and from 136 to 140 in 4. Leucocytosis was present in the 7 cases where a count was made. In the majority the number varied between 15,000 and 19,000 per c.mm. The highest count was 35,000 per c.mm.

It is probable that in the majority of these cases there was some involvement of the myocardium. This, however, may be difficult to estimate. In cases with definitely associated pericarditis and endocarditis, the myocardium is probably always involved. Among these 16 cases there seemed undoubted associated endocarditis in 8, in 4 there was doubtful evidence of it, and in 4 no evidence of endocardial disease. As already noted, it may be impossible to accurately estimate the amount of involvement of the heart muscle.

Results.—Effusion occurred in 2 cases, in 1 of which it was present on admission. The pericardium was tapped in one of these with some temporary relief, but death occurred later. Adherent pericardium, of the presence of which there could be no doubt, was present in 3 cases. Death followed in 3, in 1 with effusion, in all with endocarditis, and, of course, probably with myocarditis as well.

Adherent Pericardium.—This was found to be present in 6 cases, in 3 of which it apparently followed pericarditis, which occurred under observation. None of the patients with adherent pericardium were admitted in the first attack, 3 of them being in the second attack and 1 each in the third, fourth and sixth. In one patient, who was continuously under observation, a period of four months elapsed between the pericardial rub and undoubted signs of adherent pericardium.

3. Caton: British Medical Journal, Oct. 12, 1901.

Pulse.—The general impression on going over the figures of the pulse rate is one of surprise that the average is not higher. In 59 per cent. of the cases the pulse rate never rose above 100. In only 3 cases was it above 130, and in only 14, or 6 per cent., was it over 120. More than half of these were cases of pericarditis. When one considers the fever, the toxemia and the not infrequent endocardial and myocardial involvement it is certainly surprising that the pulse rate is not more increased than these figures indicate. As has been noted, we have observed cases with endocarditis and the development of definite organic lesions in which the pulse rate was practically unchanged. It is important to remember this and not attach much importance in a doubtful case to the absence of any disturbance of the pulse as being against endocarditis. Yet the contrary may be true, as in one patient who, during recovery in his first admission, had a persistently rapid pulse, about 120. His heart was negative and the sounds were clear. Five days after discharge his symptoms returned and he was admitted with arthritis and a soft systolic murmur at the apex, which persisted without any other signs of cardiac disease. On discharge this murmur was very soft and the pulse was 100. There may have been endocarditis throughout without any cardiac signs at first or the rapidity may have been due to myocarditis.

Urine.—This was apparently clear throughout in 130 cases, or 48 per cent. Albumin was found only on admission or once subsequently in 96 cases, or 34 per cent. Of these cases casts were found in 18, while no casts were discovered in 78. Albumin was found occasionally, but was not constant in 14 cases, or 5 per cent. Casts were present in 6 of these, and in 8 none were found. Albumin was present throughout in 31 cases, or 11 per cent. In 22 of these casts were found, in 9 no casts. It has to be remembered in connection with the finding of casts that in the great majority the urine was alkaline in reaction. The diazo-reaction was positive in 3 out of 91 cases where it was looked for. Bile was found in 2 cases and sugar in 2 cases. Quantitative uric acid estimations were made in some cases without any special departure from normal being found.

Blood.—The average hemoglobin percentage in 77 cases was 65.9 per cent. The average count of the red corpuscles in 69 cases was 4,532,000. These counts were, as a rule, taken when the patient came under observation. Later counts give rather lower counts in some cases, but the drop is not as marked as might be expected. The most marked drop in hemoglobin percentage was of 20 per cent. in twelve days, but with this the number of red cells was practically unchanged. As soon as possible the majority of the patients are put on iron, which may have some influence in diminishing the reduction. The anemic patients are probably better put on iron from the beginning. The average leucocyte count in 83 cases was 11,776. Of these, however, in 29 the count was below 10,000, and taking the average of the remaining 54 cases the count is found to be 14,260 per c.mm. This represents the total of the average count of the leucocytes in these cases, but if the highest leucocyte count in each case be taken the average for the whole is 15,380 per c.mm. In 17 cases the count was over 15,000, and in 4 over 20,000. The highest count obtained in any case was 38,000. A full differential count was made in 11 cases. These were practically all normal and the average count was polymorphonuclears 76 per cent., small mononuclears 13 per cent., large mononuclears and transitionals 8 per cent., eosinophiles 2 per cent., Mastzellen less than 1 per cent. It may be noted that leucocytosis occurred in all the cases of pericarditis where a count was made, but that many of the undoubted cases of endocarditis had normal counts. No constant connection could be traced between endocarditis and leucocytosis.

Miscellaneous Symptoms.—While the patients were under observation there was a variety of rarer symptoms, some of which may be noted. Tonsillitis occurred in 10 cases, chills or chilly sensations in 14, erythema in 8, urticaria in 2, a bullous eruption in 1 and herpes in 6 cases. Delirium was noted in 5, in 4 of which it occurred with the administration of the salicylate and was thought to be due to that. Chorea occurred in 4 instances at the same time as the rheumatism. Severe abdominal pain occurred twice without any evident cause. Both the patients recovered. In one there was marked leucocytosis. One may possibly ask if the severe abdominal pain in rheumatism is comparable to that sometimes seen in gout, as in a case reported at this meeting by Dr. Futcher. Double parotitis occurred in 1 case with recovery. There was some swelling of the tonsils. The condition of the heart was doubtful and it was impossible to say that there was endocarditis. The possible etiology of the parotitis is interesting in comparison, for example, with the same complication in pneumonia where an endocarditis is usually stated to be present. Iritis in one eye occurred in only one instance.

Subcutaneous Fibroid Nodules.—These were found in 4 cases, or 1.5 per cent. It is interesting to note that in the series from St. Thomas' Hospital only 9 instances were found in 997 cases, which is slightly under 1 per cent. Comparison between the figures of the two hospitals does not warrant any definite conclusion, but it is certainly surprising to find that these nodules apparently occurred as frequently in our experience as in one of the London hospitals, and this despite the fact that we have comparatively few children admitted to the wards. At St. Bartholomew's, during a period of six years for which records could be found, there were 16 instances among 662 cases, which gives a percentage of 2.4.

Nervous Complications.—Delirium occurred in 5 cases, in 4 of which apparently with the administration of salicylates, and in the remaining case with pericarditis. It was not due to high temperature in any case. It was in all active in character. Coma and convulsions did not occur. Chorea was associated with the attack of rheumatism in 4 cases. These were all children aged 14, 12, 8 and 6 years. In the first two there was definite endocarditis, and while the latter two are included in the group of "doubtful" cardiac cases, it is probable that they also had endocardial involvement. Only one had chorea previously. There was only one patient who showed symptoms of meningitis. This was a boy aged 12, who was admitted in his first attack. His mind was clear. There was marked rigidity of the neck muscles and the chin could not be brought near the sternum. There was no marked retraction and Kernig's sign was not typically present, although a suggestion of it was noted on both sides. The condition persisting, lumbar puncture was done and 40 c.c. of clear fluid obtained. Cultures from this were negative. The condition persisted for nearly two weeks. A second lumbar puncture gave 15 c.c. of clear fluid. During this time the leucocytes varied from 14,500 to 36,000 per c.mm. There was irregular fever varying from 99 to 105. He recovered after a protracted attack.

Pulmonary Complications.—These were comparatively few in number. In a number of cases some dulness was noted, usually at a base, and with this some blowing

breath sounds, but no tubular breathing. This occurred in several of the cases with pericarditis. Of true lobar pneumonia apparently only one case is recorded. In this the pneumonia was double and associated with both endocarditis and pericarditis. One patient was just convalescent from pneumonia when the attack of rheumatism began. Pleurisy was not of common occurrence. In the 16 cases with pericarditis it was present only in 3, while a pleuro-pericardial rub was heard in 3 others. Severe bronchitis occurred once, and also pulmonary hemorrhage with pulmonary tuberculosis in one case.

Duration.—The average stay of the patients in the hospital for the whole series was 26.4 days. The average duration of the attack for the whole series was 38 days, which rather supports the idea that "six weeks" is one of the essential points in the treatment of acute rheumatism. This, of course, is longer than the average stay in the hospital, as many had been ill for some time before admission, often without treatment.

Relapses.—It is difficult to say definitely what constitutes a relapse in acute rheumatism. If by a relapse we mean a return of the symptoms after a period during which they were completely absent, there were 12 cases in this series, or 4.4 per cent. But if the term is applied to cases in which the symptoms partially subside, to be followed by a period of recrudescence or exacerbation, it is most difficult to estimate the number. There were many prolonged cases with exacerbations, and it would be very hard to know where to draw the line, which to call relapses and which recrudescences.

Cultures.—It is disappointing to report that our results throughout were practically negative, cultures from the joints, the blood and the urine yielding nothing positive. Cocci were grown in cultures from the tonsils. In one case the colon bacillus was obtained from the urine. The results have some negative value, especially in reference to the absence of streptococci and staphylococci from the cultures. All cultures made in the line of the work of Achalme were quite negative.

TREATMENT.

This will be referred to very briefly. The patients, of course, are kept absolutely at rest, are usually put on a milk diet and given large quantities of water, preferably alkaline. They wear flannel and are between blankets. The usual custom is to give the sodium salicylate in doses of 15 grains every two or four hours for one or two days or until the pain is relieved. Then oil of wintergreen in doses of 15 drops four times a day is usually substituted. With this the potassium salts are given in doses sufficiently large to render the urine alkaline. The local treatment of the joints usually consist in the application either of lead and opium lotion or of the oil of wintergreen. The latter we have found especially helpful. Fixation of the joint was frequently employed. Special conditions receive indicated treatment. Pain was the most frequent of these. One of the coal-tar products or morphia was most often used for this. The majority of the patients are put on iron at some period of the treatment. The special treatment of the cardiac cases has been referred to before.

DIAGNOSIS.

It is instructive to note the conditions which we have most often mistaken for acute rheumatism. This mistake we should say is much more frequently made than the error of taking rheumatism to be something else. Of polyarticular conditions gout has been the most difficult disease to distinguish. In four cases which afterwards were proved to be gout we mistook the polyarticular manifestations for those of acute rheumatism. This is a mistake, the possibility of which has probably not been sufficiently impressed on the profession of this country as most of us regard gout as being relatively infrequent and forget that the acute polyarticular form may be very difficult to distinguish from acute rheumatism. The age, sex, occupation and habits of the patient are all important in making a diagnosis of gout. In the absence of tophi, probably the systematic examination of the urine will be of much assistance.

The acute form of arthritis deformans may be often a cause of difficulty in diagnosis. Several instances of arthritis deformans were admitted to the hospital with the diagnosis of acute rheumatism. Here, as is well known, the differential diagnosis may be most difficult. Probably changes in the joints, especially the small joints, which are very apt to remain after the acuteness of the attack of arthritis deformans is over, are one of the best aids in making a diagnosis. The previous history and the presence of other suggestive signs of arthritis deformans are sometimes of help. The multiple gonorrheal arthritis, of course, frequently offers difficulties in recognition. All cases with atypical features are always carefully examined with the possibility of gonorrheal origin in mind. It is well to have a suspicious attitude of mind toward all cases of doubtful arthritis. We have regarded several cases as acute rheumatism which were afterwards proved to be gonorrheal arthritis. One case is of rather especial interest. It was that of a woman who was near the full term of pregnancy. She was admitted to the medical wards with a multiple arthritis which we thought was rheumatic. Before delivery she was transferred to the maternity ward, and after the birth of the child cultures made from the uterus yielded gonococci. The various forms of septic arthritis probably give most difficulty in children.

Of the monarticular conditions the gonorrheal arthritis may give difficulty, but the mistake most often made was in distinguishing between the rheumatic and acute tuberculous joint. The tendency was rather to regard monarticular rheumatic joints as tuberculous than the contrary. In a recent case in which the only joint involved was the hip, all the ordinary signs of tuberculous involvement of that joint were present. We regarded the case as one of tuberculosis until with the appearance of subcutaneous fibroid nodules there were symptoms in the other joints. The patient subsequently came under observation with a second well-marked attack of acute rheumatism. The monarticular form of arthritis deformans is rarely likely to lead to error.

MORTALITY.

Of the 270 cases only 3 died in the hospital, which equals 1.1 per cent. The St. Thomas series gave exactly the same rate, and that from St. Bartholomew's 2.2 per cent. All the fatal cases had endocarditis and pericarditis, or one might better say carditis. One died on the 13th day of the disease, the second on the 30th day with aortic and mitral endocarditis and pericarditis with effusion, and the third on the 37th day with aortic and mitral endocarditis and pericarditis. All were in the second attack.

This figure—1.1 per cent.—is small, but it does not represent the actual mortality from the disease. Of many of this series it may be said that the end is not yet. Most diseases are given their full due in the mortality returns, but acute rheumatism is an exception. The books would have to be kept open too long, and it might be 1910, 1920 or 1930 before the returns of the acute rheumatism of 1901 could be completed.

THE SALICYLATES IN ACUTE RHEUMATISM.*

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It is generally conceded that the salicylates in some form constitute the most satisfactory remedy for acute rheumatism. These drugs are no longer considered a specific for rheumatism in the sense that quinin is a specific for malaria, but they have some very definite action with regard to the general symptom-complex known as acute articular rheumatism that makes the patient more comfortable than any other set of remedies. It is even allowable, in a certain sense, to use the expression that the employment of salicylates constitutes a therapeutic test for true rheumatism. The salicylates do not affect secondary infectious complications of joint structures, due either to the pus cocci, or to the influenza bacillus, or to the microbe of mumps or other such affections, nor to the arthritis that is due to the gonococcus. It is true they do not affect all cases of rheumatism favorably. But there is very good reason to suspect rheumatic cases that are uninfluenced by the salicylates to be dependent on some other etiology than that of simple acute rheumatism.

DOSAGE OF THE SALICYLATES.

All those who consider that the salicylates have a use in rheumatism are agreed that they must be employed in large doses. No matter in what form the salicylates are employed, from 90 to 120 grains per day must be administered during the continuance of the acute symptoms. There are many patients with an idiosyncrasy for the salicylates who can not stand this amount of the drug. Certain nervous individuals develop distinct neurotic symptoms that may even proceed to the extent of delirium. In acute rheumatism without hyperpyrexia, if delirium develops at a time when the patient is being given salicylates freely, the first rule must always be to stop the salicylates and note the result. Almost invariably the delirium will subside. The salicylates are not well borne by many stomachs. This might seem an unimportant element in the case, since rheumatism must be brought under control and the disturbance of normal digestion for a week might appear a trifle. Rheumatism is, however, one of the severest of the infectious diseases in its effect on the blood. A rapidly developing and severe anemia is a constant concomitant. Disturbance of digestion will further add to this important symptom and so make the case much more liable to serious sequelæ.

CONTRAINDICATIONS TO THE SALICYLATES.

Besides the nervous and digestive symptoms already mentioned, there is at least one other extremely important contraindications to the use of the salicylates. The derivatives of the salicylates in the system are distinctly irritant to the kidneys and yet they are all eliminated by these organs. If there is nephritic trouble present this will almost surely be rendered worse by the irritative conditions set up because of the presence of the salicylic derivatives. This will react to increase the anemia and make heart complications more serious. As a rule, then, the first thing to do in nephritis is to examine the urine carefully for any signs of nephritis. When it is present it seems advisable to exclude the salicylates from the list of remedies to be employed. If taken in amounts that are not sufficient to produce marked irritation of the kidneys they do no good to the rheumatic process. It is to be remembered after all that they are symptomatic remedies and not specifics. Whenever in the course of rheumatism signs of kidney irritation develop with considerable albuminuria, besides casts and smoky urine, then it seems better to substitute some other sedative drug for the salicylates.

Young persons particularly are liable to suffer from nervous symptoms because of the administration of salicylates. Young girls quite often develop a delirious condition, which does not of itself, however, constitute a contraindication to the further continuance of the salicylate treatment unless it should become very severe and make the patient so restless as to endanger the spread of the disease because of the movement of affected limbs.

There may be in certain cases the development of salicylic dyspnea. This state is characterized by rapid though deep breathing. It is often a source of worry to the patient's friends, and while not of itself an absolute contraindication, if persistent, or if the breathing becomes very rapid, it must lead to the substitution of some other remedy.

FORMS OF SALICYLATES.

Salicylic acid was the original form of the drug employed in the treatment of rheumatism, and gave excellent results. It proved, however, rather irritating for many stomachs, and so other forms of the salicylates came to be employed. The salicylate of sodium is perhaps the most used form in which these remedies are now administered. There are many, however, who still employ the original salicylic acid and obtain more satisfaction than with any other preparation. Strümpell suggests the use of sodium salicylate whenever the primary symptoms are very acute and an immediate effect is desired, because this drug can be given in large quantities, a dram, or even more, at a dose. He suggests in addition, however, that the alternation of sodium salicylate and salicylic acid will sometimes give more satisfaction than either of these drugs alone.

In England salicin is rather popular and is said to disturb the stomach less and also to be less irritative for the nervous system. It should not be forgotten that some form of extract of willow—a remedy containing the principles of the salicylates—has been in use in England for a century. Salicin must be used in somewhat larger doses than salicylic acid or sodium salicylate. Many other forms of salicylates have been suggested. Kinnicut has obtained excellent results without the usual annoyance from oil of wintergreen. Certain of the other salts of the salicylic acid are employed. Each of them is for a limited number of clinicians the best possible form for the administration of these remedies. The state of affairs in this respect reminds one very much of the similar claims with regard to various compounds of bromid that are used for epilepsy. It is the bromid itself, however, that does good and that has to be employed despite the inconveniences attached to it, and the same thing is true with regard to the salicylates, and it would seem to be only by accident or individual idiosyncrasy that a special preparation seems to prove any better than the other.

There are three forms of salicylic acid that may be obtained for remedial purposes. One is confessedly a synthetic product, a second is derived from synthetic oil of wintergreen and may therefore also be considered a synthetic product, and the third is derived from genuine oil of wintergreen. There are good therapeutic authorities who insist that the difference of reaction of

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these three forms of the acid is in certain persons very marked. The synthetic products are not well borne at all by the stomach, prove more irritating to the kidneys and as at times a sufficient amount of the drug can not be taken under these circumstances, they may fail to affect the symptoms. This is a matter of clinical observation that each one must decide for himself, but the criticisms are sufficiently numerous and authoritative to make it clear beyond a doubt that the subject is well worthy of consideration.

METHOD OF ADMINISTRATION.

With regard to the time at which the salicylates should be given there is some variance of opinion. There is no doubt that in accordance with the daily rhythm of temperature the temperature of rheumatic patients is higher in the afternoon and evening and they are almost sure to be more uncomfortable and to present more symptoms of the affection at this time.

It has been suggested, then, that the salicylates in whatever form they are given should be administered so that the daily dose is given before 4 o'clock in the afternoon. The patients then usually pass a quiet night, or, if necessary, may be given some opium and most of the symptoms of salicylism will have begun to remit before further doses of the drug need be given the following morning. Strümpell says that when called in the evening he always administers a dram to a dram and a half of the salicylate of soda, so that the patient may not be disturbed during the night and may be left at rest as much as possible. The following day he usually uses salicylic acid in divided doses of fifteen grains every two or three hours.

THE SALICYLATES AND HEART COMPLICATIONS.

When the salicylates were first introduced, their prompt results in the relief of pain and reduction of fever raised great hopes of their effectiveness, also in introducing the number of heart complications from rheumatism. These hopes were sadly disappointed. Careful collation of statistics by Professor Pribram in his book on acute rheumatism in the Nothnagel series shows that at least there are no fewer heart complications from rheumatism since the introduction of the salicylates, and the statistics seem even to show that heart complications are a little more frequent. English statistics particularly appear to justify the conclusion that the use of the salicylates by relieving the pain and so tempting patients to movement sooner than is proper for them has actually led to more serious heart complications than before. There are a number of the older clinicians who insist that they saw fewer heart complications under the old alkali treatment for rheumatism. It seems advisable, then, that alkalies should always be used in conjunction with the salicylates. Sufficient of the alkalies must be employed to render the urine alkaline. They are not employed with any thought of the presence in the blood either of uric acid or lactic acid, but entirely on clinical grounds.

THE SALICYLATES AND THE RHEUMATIC PROCESS.

There is no doubt that the salicylates relieve the pain, lessen the fever, diminish the restlessness and so make the patient very comfortable. There is considerable doubt, however, as to whether the remedy affects the rheumatic process itself. There are some therapeutists who believe that the salicylic acid acts as an antiseptic in the system and so is directly curative of the rheumatism, because it makes the tissues an unsuitable place for the further growth of the organism which now admittedly causes rheumatism. Unfortunately for this theory a careful study of the records of hospital cases treated with or without the salicylates shows that the disease is not shortened by the administration of the salicylates and that it is only the patient's comfort that is consulted. There are even those who say that the relief of the pains in the joints tempts patients to use their limbs somewhat and by disturbing Nature's reactive and protective mechanism favors the development of heart complications. Old practitioners insist, however, that they no longer see the very severe cases of rheumatism that were quite common in the early days of their practice thirty and forty years ago. Then it was not unusual to have patients lie in agony for days and even weeks with high fever and intense restlessness with no possible means of affording relief.

Hyperpyrexia is one of the complications that is undoubtedly much less frequent in acute rheumatism than before the introduction of the salicylates. This constitutes one of the most serious immediate complications of the disease. The mortality from acute rheumatism is not very high, but a considerable proportion of it is due to hyperpyrexia. In recent years Strümpell says, and Eichhorst agrees with him, that he has seen hyperpyrexia very rarely, and then only in cases where the salicylates were not used or where an insufficient amount of these remedies was employed.

SUBSTITUTES FOR THE SALICYLATES.

The salicylates are not a specific for rheumatism and the beneficial effects obtained from them may also be derived from cognate coal-tar products. Antipyrin has been very extensively used in Germany for this purpose. It was, for a time at least, and is, I believe, yet the routine drug employed in the first medical clinic of the Charité Hospital of Berlin. This is under Professor von Leyden's direction, which is of itself a guarantee that the treatment is thoroughly conservative. Like the salicylates, antipyrin must be used in large doses. From sixty to ninety grains per day are employed for three or four or more days, until the painful symptoms of the rheumatic condition have subsided. With our prejudices against antipyrin in this country this dosage seems enormous. No bad results have been noted, however, and it seems to be well understood now that when antipyrin is badly borne it is not due to any special toxic quality of the drug, but to an idiosyncrasy in the patient. Phenacetin in similar doses to those already mentioned for antipyrin has also been employed with good results. Either of these drugs may prove effective when the salicylates fail. If the salicylates are going to do good, decided improvement will be noted on the second or third day. If pain continues after this time one of these substitutes should be employed.

Investigations of New Remedies.—The London *Lancet* says: Our experience proves that it is becoming almost impossible to admit articles in the columns of the *Lancet* from the pens of general practitioners and others dealing with the results of their therapeutical investigations into the value of new preparations because all the favorable passages will at once be pounced upon by the enterprising purveyor, perhaps garbled, almost certainly dissociated from their context, and scattered broadcast over the land. We are thus, perhaps, prevented, and by the very people who would profit by the publicity, from putting before our readers papers the practical value of which may be great. The public, the medical profession, and the purveyors alike suffer. The only way to remedy the position is not a satisfactory one, but it is one to which we must have recourse.

TYPHOID FEVER IN AN INFANT UNDER ONE YEAR OF AGE.*

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In this age of serotherapy and prophylaxis the question of immunity is one of prominence. Typhoid is a prevalent and constant disease. Its causation and its avenues of attack are comparatively well known. No one to-day disputes the fact that a characteristic bacillus most commonly water borne and cultivated in the intestinal canal is the prime cause, but there has been a question in the literature of typhoid regarding the immunity of infants under one year old.

Previous to 1840 infantile intermittent fever was a commonly described disease with nurslings. About this time, 1840, Rilliat and Taupan each independently published articles to show that what was previously described as infantile intermittent fever was in truth typhoid fever. I have not been able to discover exactly on what Rilliat and Taupan based their deductions.

We find, however, in 1847, Condie, in his book, "Diseases of Children," saying: "It is more than probable that typhoid will be found to be a much more frequent disease among children than has heretofore been supposed. The memoirs of Rilliat and Taupan afford sufficient evidence that many of the cases of what was formerly considered as enteritis in children, as well as of that form of fever which has been vaguely denominated worm or gastric, are in fact cases of genuine typhoid fever."

Condie also quotes the "Vital Statistics of Philadelphia from 1835 to 1845," which gives four cases of typhoid fever in children under one year of age out of a total of 57 cases. Still Condie does not say that he himself ever saw a case of infantile typhoid.

Charles West, in his lectures on "Diseases of Infants and Children," in 1850, quoting Rilliat and Barthaz, says that "the postmortem evidence in what was formerly called remittent fever you will find enlargement, tumefaction and ulceration of Peyer's glands." Nor does West say that he himself had seen a case of infantile typhoid.

In 1864 Murchison exhibited at the London Pathological Society the intestines of an infant six months old who had been attacked with typhoid fever at the same time with her mother. This I find quoted in Keating's Cyclopedia of the Diseases of Children. Wilson, who wrote the article in the cyclopedia, says that cases in the first year of life are exceedingly rare, and, quoting Murchison, also affirms, basing his statements on the reports of Rilliat and Taupan, "that previous to 1840 the opinion was universally held that infants enjoyed an immunity from typhoid." Excepting that Rilliat and Taupan may have had some cases this of Murchison is the first case that I can find on record.

Austin Flint, in 1868, says that typhoid fever occurs but rarely in infants, and he quotes Murchison's case. There is no evidence that he himself had ever seen a case.

Steiner, who had been physician to Francis-Joseph Hospital for Children for fifteen years, in his interesting and useful compendium on "Diseases of Children," published in 1871, states that there had been 1,180 cases of typhoid fever in the hospital, but that this disease is not commonly seen in very early life, though some observers, Bedanar, Buhl and Loschner have recorded its occurrence in children a few weeks, or even a few days old. But Steiner does not report that he himself had ever witnessed a case in an infant.

I find in the *British Medical Journal* of April 19, 1902, a report of enteric fever in an infant four months old. It was nursed by a mother who also had typhoid; the child died; and J. R. Lowe, L. R. C. P. & S. Edinburgh, adds to this report: "This case is of interest because on looking up the literature on the subject I find there have only been two recorded cases of enteric fever in infants under one year old."

W. G. Thompson, in his text-book of "Practical Medicine," 1900, says: "The fever is very rare earlier than the second year, and from its etiology its occurrence is impossible in a breast-fed infant." Thompson says that he saw, at the Presbyterian Hospital, in 1896, an undoubted case in an infant nine months old, but he fails to state whether or not the infant was nursing.

So it may be readily seen that typhoid fever is an extremely rare disease in infants under one year of age. Murchison's case is quoted everywhere, also Rilliat and his compeers are quoted by nearly all the compilers. Therefore, I will be excused for bringing before this Section a case which I saw and reported in mass with the rest of an epidemic occurring in the backwoods of Maine. Briefly stated, my case occurred in a family of nine persons, two adults and seven children, domiciled in a log house with two rooms. There were four other families in the settlement, but there was considerable distance between the houses. They were completely isolated; there was neither store, church, school, physician or privy in the entire hamlet. No one had visited this family from April, when the first case occurred, until October, when the writer saw them. There was no medication. The only food in the house was flour, pork and beans. The source of contagion was from a polluted spring. The mother was nursing an infant six months old when she herself was attacked in August. She continued to nurse the baby until her milk dried up by the fever, about one week, then the baby was put on a diet of flour paste. This was made with the water from the polluted spring, and the child also drank the polluted water. About the first of October the baby sickened. When I first saw her she had been sick ten days, and was doing fairly well, and I believed she recovered, because I left an addressed envelope with the parents to send me word if anything serious happened, and I have not heard from them. In this case it will be seen that the baby used the polluted water for nearly three months before she sickened. The mother had used the water nearly four months before she was attacked, but two other members of the family did not sicken until September, and therefore had been using the water for six months previous to their attack.

Here was a nursling, under one year of age, who, though living in the same house where there was some one sick with typhoid fever from April until the middle of August, had been nursed by a fever-stricken mother, escaped until exposed to the same conditions as the other members of the family, then took the disease.

"One swallow does not make a summer," but one can not often find just the conditions that exist in this humble house where all the inmates when exposed to the same danger all alike, nursing mother and infant, took the disease. This is one instance showing that the infant did not resist typhoid contagion when the conditions were the same as with the adult members of the family.

* Read at the Fifty-third Annual Meeting of the American Medical Association, in the Section on Diseases of Children, and approved for publication by the Executive Committee: Drs. H. M. McClanahan, Edwin Rosenthal and Samuel W. Kelley.

DISCUSSION.

DR. A. C. COTTON, Chicago—I do not know of any subject that has appeared on our program for discussion during the past few years, aside from feeding and nutrition, that presents more interest to-day than typhoid fever among children and infants. It is only a few years since some of our best observers questioned the possibility of typhoid fever in infants under two years of age. It can not be more than eight or nine years since Dr. Charles Warrington Earle, Chicago, read a paper, reporting 13 cases of typhoid fever occurring in infants and children. This caused considerable discussion, and the general opinion seemed to be against the diagnosis made by Dr. Earle. No less an authority than Dr. W. P. Northrup, New York, basing his experience on a large number of autopsies in the New York Foundling Hospital, said that he had never met the postmortem lesions of typhoid fever there, though many diagnoses of typhoid fever had been made in that institution at the bedside. Clinical evidence has been frequently presented in favor of typhoid at all ages, but they have been apparently met by the statement that lesions were not found postmortem. Within a very few years a number of papers, presenting in the aggregate a large number of cases of unmistakable typhoid in infants and children, have appeared. We are all familiar with the able paper by Dr. J. Lovett Morse, Boston, and two papers have been presented by members of this section, Dr. J. P. Crozer Griffith, Philadelphia, and Dr. I. A. Abt, Chicago. These show that with proper clinical tests we can not escape the positive diagnosis of typhoid. This brings up the question as to why errors in diagnosis have been made in the past. The fact is that infants and children do not show the pathognomonic intestinal lesions formerly considered necessary for the diagnosis of enteric fever. We also know that the clinical history of the cases in children differs from that in adults. The Widal test is the only absolute test to-day, and it seems to be very generally accepted. That children react as readily as adults to this test I believe is also generally accepted. The type in children is no more widely different from the adult type than was the typical American typhoid different from the typical German typhoid fifteen years ago. I remember listening to an interesting discussion at that time of notable authorities at the New York Academy of Medicine. At that time they were only just willing to admit that typhoid fever could occur along with constipation because the old German description insisted on the necessity for the occurrence of diarrhea in cases of typhoid fever.

DR. J. P. CROZER GRIFFITH, Philadelphia—I believe thoroughly that this disease is much more frequent in early life than most of us think. In regard to the statement one often reads that in 2,000 autopsies at the New York Foundling Asylum the lesions of typhoid fever were found in no instance, it is to be noted that the same writer in another place stated that the lesions of the disease in infancy could not be distinguished from those of enterocolitis. The conclusion from those statements would be perfectly legitimate that all the enterocolitis cases were really instances of typhoid fever! The force of the first statement is destroyed by the second.

In the adult when there is continued fever we suspect typhoid fever, whereas in the child continued fever often leads to the suspicion that the child is "teething," or has indigestion. The possibility of the presence of typhoid seems to be forgotten. I have within a few weeks had a case of the disease in an infant in which the true diagnosis was hardly suspected until a Widal test was made and was found to be positive. I then found that the mother of this baby was sick with typhoid fever in another part of the hospital.

In a recent investigation by Dr. Maurice Ostheimer and myself 418 cases of typhoid fever were collected from medical literature and from our own experience, occurring in children of 2½ years and under. Twenty of those cases were born with typhoid fever. There were about 180 cases of typhoid fever in the first year of life. The greater number occurred in the second year, and a smaller number from 2 to 2½ years. I do not think, therefore, that we can truthfully say that this is a rare disease in early life. We may say that, as compared with the frequency in adult life, it is uncommon, but it is only relatively uncommon. I have seen typhoid fever at the age of 3 months, and at 7 months, and the case just referred to was 9 months old. The case occurring at 7 months I did not recognize until death occurred. That is the trouble—the diagnosis is often exceedingly difficult, even if we are alive to the possibility of the presence of the affection.

DR. ROSA ENGELMANN, Chicago—Dr. Rotch told us recently that the Widal reaction was often not positive in children before the fourteenth day, but I think it can be usually made available earlier. I have been in the habit of making it as early as the third day. In one case it was negative on the third day, and positive on the fifth day. I teach now that the Widal test is one of the means of making the diagnosis in typhoid fever in children especially.

DR. H. L. K. SHAW, Albany, N. Y.—I agree most heartily with Drs. Cotton and Griffith as to the frequency of typhoid fever in infancy. I heard Dr. Northrup read a paper some years ago in which he stated that he had never seen a case in a child under three years, and made the same statement about the autopsies at the New York Foundling Hospital. Last winter I saw a baby of 13 months in whom the symptoms were absolutely typical of adult typhoid. The spleen was very distinctly enlarged and the temperature ran a typical course. The Widal reaction was positive. The child even at that time was being breast-fed, and there was not a case of typhoid within a mile of the house, so we were entirely at a loss to discover the source of infection. I think we can safely claim that typhoid in infants varies very little from that seen in adults.

DR. H. M. MCCLANAHAN, Omaha—In reading the current literature of the past few months I was astonished to learn that there were only ten or eleven articles on typhoid fever in infants, a very important subject as compared with appendicitis in infants, with which we are all familiar, and about which a great many articles were written.

DR. E. F. BRUSH, Mt. Vernon, N. Y.—There was no doubt, in my mind, about this case being typhoid. What I can not understand, from the discussion, is, if typhoid is a water-borne disease, how the nursing babe can get it. I do not believe it can get it from its mother. My object in writing this paper was to call attention to the fact that the nursing infant did not contract the disease until it took the contaminated water, and that then it contracted the disease just as did the adults in the family.

DR. A. C. COTTON, Chicago—I do not think we should let this subject go out with the impression that children are exempt from typhoid, because they do not drink water. Children at the breast have typhoid fever; this has been demonstrated. A child may develop typhoid in utero, and nursing children have responded to the Widal test. That typhoid may be nursed from the mother's breast there seems to be little doubt; hence immunity for the breast-fed infant can not be claimed.

THE CLINICAL RESULTS OF SERUM THERAPY.*

EDWIN ROSENTHAL, M.D.
PHILADELPHIA.

A brief résumé of the various steps by which artificial immunization was finally brought about will prove one of the most interesting stories of medical history. To start with, the very first steps will bring us back to biblical lore, and in the Talmudical lore of the ancient Israelites we will find some striking rules that prove to the zealous investigators that the question of infection and contagion was equally as well known to them as it is to us. The rules of hygiene as set down by Moses have not been altered by time, and though the observations in that ancient period were not made with the exactness of the present time, the results were about the

* Read at the Fifty-third Annual Meeting of the American Medical Association, in the Section on Diseases of Children, and approved for publication by the Executive Committee: Drs. Edwin Rosenthal, H. M. McClanahan and Samuel W. Kelley.

same, and if the rules were disregarded the same diseases were the results. The question of exactness is what is always necessary in any science, and though theory held sway for a considerable period, it was to the modern scientist that facts proved the truth of such theories.

THE GERM THEORY OF DISEASE.

The question of the germ origin of disease is not now a new one, and when Tyndall discovered in dust various microscopic objects it was not very long before the objects were isolated and their purposes investigated and proven. Probably immunity would remain at the present time the same theoretical subject had not Jenner made his "matchless operation" of vaccination and proven to the medical as well as to the intellectual world the wonderful efficacy of vaccination. From Jenner to Pasteur was but a step of time, and to Pasteur alone should credit be given for leading the way to practical serum therapy. We are all familiar with the various discoveries of this matchless investigator, and no greater honor can be given to such discoveries than having attached to them the name of their discoverer, and by that name to alone make known its object.

The Pasteur institute for the treatment of rabies demonstrates most practicably the clinical law of the application of serum therapy. For here to the most ignorant is demonstrated that rule: the early application of the remedy. Pasteur often applied his method of treatment to cases that he knew were hopeless, not so much for gain, nor for the failure that a failure should entail, but because he was such a whole-souled, noble-hearted man that he never could refuse. And hence, had Pasteur refused the use of his method to cases that have come to him too late the whole fallacious objection of those who do not understand the methods of his treatment would have fallen to the ground. As with Pasteur, so with Behring's, Roux's, Kitasato's, Marmorek's and the rest of these noble investigators' discoveries. History repeats itself.

THE AUTHOR'S FIRST EXPERIENCES WITH SERUM.

After Pasteur comes Koch, and when the discovery of this lymph was heralded to the world how entirely too much was expected of it! I remember when I had received a bottle of this priceless fluid, so rare and so difficult to obtain, I received offers of thousands of dollars for it. What I had received was enough for probably 300 injections. But, wishing that it should be placed to the best use, and not being so situated as to apply it as its value should direct, I gave half of my package to the University of Pennsylvania Hospital and the other half to the Home for Consumptives under the charge of Dr. William Muir Angney of Philadelphia. I can not tell with what anxiety I, with others, watched the results of these clinical experiments and what was our disappointment.

It was with the same feeling of disappointment that I welcomed the addition to our list of remedies: the antitetanus serum, then the diphtheria serum, the antistreptococcic serum, the antipneumonia serum and the like. I used the tetanus serum in a case of trismus neonatorum and the failure resulting dimmed my ardor for further clinical investigations on this line.

THE DIPHTHERIA SERUM.

But reading and studying never will cease, and when I read of the various investigations of Professor Behring I was as anxious to use this remedy as I had been with Koch's lymph. I wrote to my relative (one of the well-known alienists of Germany, Dr. A. Baer, physician to the Moabait) to get me some; it came; I was successful with my first case, and then even the cable was too slow. Now, was there an error in the method of my using the former remedies or was this one different? From Behring I obtained a personal monograph and this I followed, and the great truth came to me: that to use these remedies we must always use them in time. It is a mistake, or, I might say, the greatest mistake of all, to use any remedy of this class after a certain time. As an example, we should use the diphtheria serum in cases of diphtheria from its period of inception or incubation until that period where changes begin to take place, that is, in the first, second, third, fourth, or—even in a laryngeal case—the eighth day, or up till the time when the blood becomes changed and we no longer treat diphtheria, but its results. This is the greatest rule in the laws of immunity: we immunize against the disease, not its results. If we cure the disease we have no results. If we fail we have failed because the disease has changed, or, in other words, has become so far advanced that where we at first had a simple case of infection we now have an overwhelming result of blood change.

I have never failed with the use of the antitoxin if I have used it early enough and in sufficient quantities.

THE ANTISTREPTOCOCCUS SERUM.

Since the advent of the antitoxins other serums have come to our attention, notably Marmorek's serum. This serum is different from the antitoxin, for where in the former it was truly antitoxic, in the latter it is antimycotic. I have used this serum in many diseases the causative factor being the germ, that when properly prepared and injected into the horse or ass will give us a serum equally antagonistic.

I had greater opportunities to watch the results of the antistreptococcic serum than the diphtheria antitoxin. The simple reason is that in the case of diphtheria contagion the rules of the various boards of health interfere greatly, and in addition, there is the natural fear of the caretakers. No such conditions exist in sepsis, and again, the quality of the patients is different. In diphtheria we have children who have been suddenly infected. In septic cases we have the results of other conditions.

Now, while in diphtheria antitoxin we have had uniformity of results, it is not so with Marmorek's serum. Why is this? Take, as an example, erysipelas. This is the special disease that Marmorek originally reported as being treated and cured by his serum. It is true I have treated erysipelas—and I termed the cases "idiopathic erysipelas"—with this serum and have had very good results; but then again I have had a whole series of cases of erysipelas that I termed "surgical erysipelas," and have had such good opportunities of applying it, as, for instance, at the very beginning and at its height, but the results have been failures.

Now I have used this serum in puerperal fever and have had such good results that I reported the cases. I am persuaded that the serum was the factor of cure, as I permitted others, notably a well-known obstetrician (Dr. W. H. Wells) to make the diagnosis and prognosis. When again I used this serum in a case otherwise infected—probably of the same order as the surgical erysipelas, for the infection was made during an instrumental labor—and in a general hospital, my results have been failures. My attention being thus drawn to the peculiar method of this remedy acting, you can not charge me with being uncertain and again in doubt.

THE ANTITETANUS SERUM.

So with the antitetanus serum. I used it in an infant aged 6 days and in a quantity I thought sufficient, but

the results were always unfavorable. Dr. Biggs, to whom I always write regarding my serums and whom more than any one in America the profession should thank for his work in these lines, looks on these results as to be expected at this time. For example, the bacilli of tetanus multiply with such astounding rapidity that truly enormous amounts of the antitoxin should be used and in increasing ratio. As I used in proportion such small quantity the result otherwise could not be expected. Time will show us why this serum should give such good results in some conditions and failures in others; at present the theory of Biggs is the best propounded and should be accepted.

THE ANTIPNEUMONIC SERUM.

The last of the serums used by myself has been the antipneumonic serum. Now in my cases I chose the ones that I felt were somewhat hopeless—for instance, an infant who had suffered from measles and then from pneumonia. My second case was somewhat similar. Two instances were croupous pneumonia, simple—that is, with no complications—the others were pneumonia with pleurisy or bronchitis. In all there were nine cases. All good results. That is, all recovered; some may have taken longer than others, but such cases as pneumonia and measles I considered so very unfavorable that, since they had recovered, no matter how long the time, I was brought at once into the camp again of the serum-therapist. Then came a case of croupous pneumonia in an alcoholic. What now? My experience had been so uniformly unfavorable with this class of cases that I was glad indeed to have a remedy (?) on which I could place some little reliance. To this case I called Dr. J. C. Wilson, who has had a greater experience than mine with this serum. We used it according to the methods in vogue and used it fearlessly. After the ninth bottle (each one contains 20 c.c.) I desisted, and Dr. Wilson (we were making daily consultations) coincided. Now, in this case, the serum demonstrated its utter failure. We both knew all about the remedy and how to apply it. Why should it fail? This is one of the remarkable peculiarities of serum treatment. The remedy in many instances refuses to act. Wherein the trouble lies I have not been able to see or learn.

CONCLUSIONS.

This much I can say as a conclusion:

Diphtheria antitoxin is a specific and its standing is assured. It is only in exceptional and very, very rare instances that failures are to be seen, and this may be the result of the operator even as of the remedy.

Marmorek's serum is erratic and not to be depended on. It may be harmless as the originator asserts. Experience has also demonstrated this. If the method of its originator be followed in its application a favorable result or an unfavorable result may be equally expected. I think the failure of this remedy should be sought in the very original streptococcus used in the make of the serum. If this be found, and then the disease be isolated as well as the germ, we may have the same uniformity of results as in diphtheria. But so long as septic diseases depend on many germs, one germ in particular can not immunize.

I think the same failure results in pneumonia. Where the infection is mixed, failure results, not so much by reason of the remedy in the strepto-infection, but because the disease is complicated and the complication should require an especial addition to the serum, and this should be especially known. As long as this is uncertain so long should the rule be: Serum therapy should be applied under special conditions, and for special indications, and not empirically, as I fear the diphtheria antitoxin is being given.

517 Pine Street.

DISCUSSION.

DR. J. P. CROZER GRIFFITH, Philadelphia—At the time of the first interest in tuberculin a commission was appointed by the University of Pennsylvania to test its value. The investigation was carried on with the greatest precision and attention to systematic detail. It was my province to examine frequently the condition of the lungs in the patients under treatment. There was no case in which any decided alteration for the better was observed; and I am sure that in one case, which had for months been quiescent, the results were absolutely disastrous.

DR. A. C. COTTON, Chicago—I wish I could share the optimistic ideas of the essayist, but my experience with antitetanus serum has almost convinced me that its effect is practically *nil*. The fact that we treat a case of tetanus with serum and it recovers is little proof of the efficacy of such treatment. All of us who have seen many cases of tetanus, or who have watched the reports of such cases, know that many cases of tetanus recover. Most of us know, too, that there are cases of the so-called pseudotetanus of Escherich—a variety in which the symptoms are less marked and the case seems more amenable to treatment. Personally, I do not think that this good result indicates either the efficacy of the serum treatment or the necessity for this refinement of nosology. Tetanus may be intense and startling, or mild and subacute, and tetanus may recover under the ordinary sedative treatment. With an extended experience with tetanus I have come to the conclusion that my cases do just as well without the serum as with it, and this, too, although I tried diligently to convince myself of the value of this serum.

With regard to pneumonias in children, I must say that I do not consider croupous pneumonia the formidable disorder that many physicians believe it to be. If I can definitely locate a lobar pneumonia in a child I feel justified in making a favorable prognosis, and I am always glad to find that I am not dealing with a catarrhal pneumonia; hence it seems to me that serum treatment in croupous pneumonias yields clinical evidence of no great value. The large majority of these cases should recover with good hygiene and very little therapy. On the other hand, the uncertainties of catarrhal pneumonia are familiar to us all, and this disease, with its complications and sequelæ, renders serum treatment of questionable value.

DR. EDWIN ROSENTHAL, Philadelphia—I think the serums have proven themselves in the main misleading and disappointing.

THE USE OF GELATO-GLYCERIN BOUGIES IN THE TREATMENT OF ACUTE EARACHE IN YOUNG CHILDREN.*

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FALL RIVER, MASS.

It is commonly stated that remedies applied to the external canal in the treatment of acute earache are of very little use, since, owing to the fact that the canal and tympanic membrane are lined with epithelium, which is an extension inward of the skin, the absorption is so slight that remedies of this class can do but very little good. While it is true that absorption is much less and slower than is the case when remedies can be applied to a mucous membrane, I am nevertheless fully persuaded that absorption of medicaments can take place through the external surface of the tympanic membrane, and that many remedies can be exhibited in this way to the comfort of the patient. In my early experience I

* Read at the Fifty-third Annual Meeting of the American Medical Association, in the Section on Diseases of Children, and approved for publication by the Executive Committee: Drs. Edwin Rosenthal, H. M. McClanahan and Samuel W. Kelley.

often used morphin and atrophin solutions in the form of drops, and various oils and other external ear drops are in universal use.

Acute earache in young children is sudden and severe in its onset, and a remedy to be universally applicable should be one capable of quickly giving relief and easy of administration. When the inflammation has lasted for any length of time probably nothing short of a paracentesis will relieve; but there are many cases of sudden onset in which the timely exhibition of the remedy which I am about to describe will cut short the attack, relieve the child and effect a cure.

I refer to the use of gelato-glycerin bougies, in which the medicaments desired to be used have been dissolved. For their introduction I claim no originality whatever. They were first originated by the late Prof. Joseph Gruber of Vienna, and are familiar to those physicians who have been his students. He, however, does not tell how they can be made, either in his book on diseases of the ear or in his division of the Vienna formulary as given in Landesmann's *"Die Therapie an den Wiener Kliniken,"* and physicians who have obtained them of the Vienna apothecary recommended in Landesmann's book have not been able to get them made in a satisfactory manner in this country. In the *Journal of Laryngology,* January, 1898, R. H. Woods of Dublin gives a formula in which liquid extract of opium, cocain and atropin are combined with gelato-glycerin, and states that in his experience many cases of acute earache in children have been aborted by their use. He does not give in his article the proportions of gelatin and glycerin, but says they should be such that while remaining solid at the ordinary temperature of the air the bougie should melt at or a little below the body temperature, thus insuring their ready dissolution when placed in the ear.

I have taken the formula of Woods' as to the main ingredients, added thereto 3 per cent. of carbolic acid, for its anesthetic and antiseptic properties, and with the aid of my apothecary have overcome the pharmaceutic difficulties in their manufacture. I first described their use in the *Boston Medical and Surgical Journal* of July 28, 1898, and later wrote in regard to them in the *Laryngoscope,* August, 1899. My experience in their use now covers four years, besides which they are extensively used for the relief of earache by many physicians of my acquaintance, and in general with very gratifying results. Further experience has convinced me more than ever of their value, especially in the early stage of acute otitis media and in acute otitis externa.

It is on account of the extreme prevalence of earache in children that I have brought the subject before this Section, in the hope that you will try these bougies. They can be made by any druggist and have the advantage that they can be used without the slightest difficulty.

The bougie when prepared is either kept in a neutral powder like lycopodium or wrapped in tinfoil. To use, the lycopodium powder is washed off in warm water, or, if wrapped in tinfoil, they are dipped in warm water. The warm water aids in their solution. The bougie is then very slippery, and the affected ear being placed uppermost it can easily be slipped down into the external canal without the slightest discomfort to any child. Here the bougie soon dissolves, the anodyne is brought directly into contact with the inflamed surfaces and the pain is relieved. Beside being a medium for the exhibition of the opium, cocain and atropia, the glycerin is of itself distinctly curative, in that it tends to draw out serum from within and lessen the tension. A certain amount of osmosis takes place and there is, I think, absorption of the medicine contained in the glycerin. After insertion the ear should be stopped with absorbent cotton or gauze and a hot water bottle placed at the side of or over the ear. Even when paracentesis has been required and done I have found the insertion of a bougie immediately after the paracentesis to be of great relief to the patient in lessening pain and withdrawing serum and to have distinctly curative value.

Cases which have gone beyond an early stage are, of course, not relievable by this remedy, and demand treatment appropriate to the condition, whether paracentesis or otherwise; but many a case of acute earache will at once subside without going on to severe inflammation if promptly treated in this manner. Many mothers of my acquaintance keep these bougies in the house and use them at the slightest sign of earache.

The formula here given is a correct working formula and one that any pharmacist can use. My own druggist made them in a mold intended for urethral bougies and then divided each one into three. As this mold held just 14 urethral bougies the odd number of 42 is accounted for. After making they are covered with lycopodium powder or tinfoil and dispensed in a bottle, as, of course, they are somewhat hygroscopic.

℞.	Acidi carbolici	minims	7
	Fl. ext. opii	minims	6
	Cocaini	grains	3
	Atropini sulphatis	grains	3
	Aquæ	minims	52
	Gelatini	grains	18
	Glycerini	grains	158

To make 42 bougies.

If desired the equivalent of morphin sulphate or acetate can be substituted for the fl. ext. opium.

In regard to their manufacture, dehydrated glycerin should be used. Several apothecaries have failed to make them, being unable to get the gelatin and glycerin to stiffen properly; but the problem is not a difficult one, as the bougies have been made with success in different cities by different apothecaries.

DISCUSSION.

DR. JOHN C. COOK, Chicago—I think the glycerin and carbolic acid combination has been used for a long time, and there is no question about its value, particularly when it can be so conveniently employed as in the form described.

DR. RICHARDS—When I showed these aural bougies at the Otology Section one gentleman said that there could be absolutely no absorption in the ear, while another gentleman said that these bougies were dangerous because there would be too much absorption. Another suggested that the gelatin and glycerin could be used separately, but it should be remembered that most of these cases are seen in the night, and these substances are not usually at hand, and the drug stores are closed, hence it is desirable to have something ready at hand.

Electrocution in a Public Bath.—The dangers of electric lighting were illustrated by a most deplorable accident in a London public bath. The attendants at the institution in question were attracted by the cries of one of the bathers, and on going to the spot found him in an agony of pain and suffering from shock, which shortly afterward proved fatal. Another man was found dead in an adjoining bath. The cause of death in both instances appears to have been electric shock. Pending an official inquiry into the occurrence, the probable explanation is that the baths became connected in some way with the wires conveying the current for lighting purposes. It is difficult to imagine any other way in which a powerful electric discharge could have reached the bath. The incident should attract the attention of all responsible for baths, both public and private, in every part of the United Kingdom. If the use of electrical lamps is to involve the risk of electrocution, then the public will undoubtedly prefer the substitution of less dangerous illuminants.—*Med. Press and Circular.*

A CONTRIBUTION TO THE SURGERY OF THE GALL BLADDER AND DUCTS.*

ALEXANDER HUGH FERGUSON, M.D., C.M.
CHICAGO.

ANATOMY.

The advancement of surgery to include the biliary passages has awakened a new interest in these structures and their relations. The surgeon found it necessary to go into the dissecting room and familiarize himself with the normal structures in this region. With this object in view, George Emerson Brewer,[1] M.D., New York, dissected and studied 160 subjects to which I wish to refer you. Mr. Morrison[2] has drawn attention to the lesser sac of the peritoneum in which the gall bladder exists, and many others have made valuable observations.

The ninth costal cartilage is the external landmark of the gall bladder; in making an incision to expose it, the lower intercostal nerves should be avoided if possible. By making the perpendicular incision below the costal arch, and through the outer border of the right rectus muscle, only the ninth intercostal nerve is severed. There is not much variation in the normal position of the gall bladder. In some instances (5 per cent.) it may have a double fold of peritoneum forming a distinct mesentery, affording considerable mobility. It is occasionally found almost buried in the liver, in the fissure between the right and quadrate lobes, so deeply as to be almost surrounded by liver tissue. Brewer observed it between two folds of the gastrohepatic omentum; I found it in this position in one case while operating.

Hochstetter[3] recorded a case in which the gall bladder was attached to the left of the median line and there was no transposition of the viscera. The position of the cystic, common and hepatic ducts, as well as that of the artery and vein, is fairly constant and so is the relationship to one another.

The greatest variation is in the arterial system; an arterial branch may be found crossing the ducts at any part of their course, or may run parallel with and to the outside of the common duct. The variation in length of the cystic (5 cm.), hepatic (4 cm.) and common (6.5 cm.) ducts, although considerable, is not important from a surgical standpoint. In diameter the ducts are as follows: Cystic, 2.3 mm.; hepatic, 4 mm.; common, 6.5 mm. This is important from a clinical standpoint. A stone that with difficulty passes the cystic duct, finds its way with ease through the common, till it reaches the duodenal orifice of the duct, which is smaller than any portion of it (3.8 mm.).

Owing to the spiral valve formation of the mucous membrane of the cystic duct, a probe can be passed only when it is pathologic, whereas a probe readily passes through the hepatic and common ducts.

On opening the duodenum, it is difficult to locate the ampulla by sight or touch on account of the valvulæ conniventes in this region. This may be faciliated by dilating the common duct with air or water.

It is well to remember that the gall bladder may be bifid, hour-glass shaped or absent; that the ducts may be represented by fibrous cords. A tongue-like process of the right lobe (Riedel) of the liver is a deformity to be considered as being occasionally present when making a diagnosis of tumors in this region.

DISPLACEMENTS.

In displacements of the liver the gall bladder is carried with it, and when it is tilted from above downward and backward, it presses on the gall bladder, also on the colon, giving rise to discomfort and pain, which vary with intestinal distention. One case of this nature was relieved by stitching the gall bladder to the upper angle of the wound opposite the ninth costal cartilage, which acted as a suspensory ligament to the liver. Although gallstones were suspected in this case before the operation, the gall bladder was not drained because it felt normal, and by pressing it on the under surface of the liver with my fingers its contents readily passed through the ducts, and by palpation no stones were felt in it, or in the ducts. In cases where the gall bladder is entirely surrounded by peritoneum there is great latitude of motion of this viscus. I have repeatedly demonstrated this by pushing it into the loin below the kidney, then bringing it just beneath the umbilicus, and finally to the left of the median line of the body. Such a gall bladder, owing to its dependent position and inability to completely empty itself, is prone to have stones form within it. For this reason it had better be anchored and drained. The most frequent displacements are due to some pathologic condition within the gall bladder itself, as in hydrops, or to outside adhesions to the stomach, duodenum, abdominal wall, omentum, appendix, or some portion of the intestines. The gall bladder that is held below its normal level by adhesions must necessarily contain more or less residual bile. The fixation and position prevent its regular evacuation. The result is that the bile becomes inspissated, cholesterin, bile pigments, germs and the other constituents of gallstones precipitate and become agglutinated together. This affords an explanation of cholangitis, there being incomplete emptying of the bile—residual bile—precipitation of stone-forming substances, trauma to the mucous membrane of the gall bladder, and finally infection, mild or severe, depending on the virulency and kind of germs present. Adhesions always begin at the area of inflammation. Should the gall bladder be inflamed, adhesions formed with contiguous structures tend to drag these to it. The contrary is the rule when an inflamed appendix, bowel, etc., come in contact with the surface of the gall bladder. There are many other factors that displace the gall bladder, such as occupation, tight lacing, etc.

GALLSTONES.

The life history of a gallstone from its formation to the time of its impaction has not yet been fully written. Cholelithiasis is materially within the scope of laboratory workers and clinicians, and we look to both to unravel the etiologic mysteries of its prodromal stages. This much may be said regarding their formation: Catarrhal conditions of the mucous membrane of the gall bladder and ducts, excited, of course, by the presence of microbes, produce both cholesterin and calcium salts (Naunyn). Germs and gallstones are very frequently associated together (Welch)—the germs occupying the center of the stones. It has been shown that *B. coli, B. typhosus,* the staphylococcus and streptococcus occur and live in the gall bladder for a long time (seven years for typhoid according to Blachstein). Gallstones can be produced experimentally by injecting germs into the gall bladders of dogs (Gilbert). There are other causes accessory to the above.

* Read at the Fifty-third Annual Meeting of the American Medical Association, in the Section on Surgery and Anatomy, and approved for publication by the Executive Committee: Drs. H. O. Walker, A. J. Ochsner and DeForest Willard.

1. Johns Hopkins Hospital Reports, vol. ix, p. 337.
2. British Medical Journal, Nov. 3, 1894.
3. Arch. f. Anat., Leipsic, 1886.

Age.—While they have been found in persons of all ages, they are rarely met under 25 years. Fully 50 per cent. of all the cases occur about 40 years of age.

Sex.—Gallstones are over three times more common in females than in males, and more common in women who have borne children.

Occupation and Habits.—Certain kinds of work which require the forward bending of the body, thereby causing enteroptosis, displace the gall bladder and predispose to the formation of gallstones. Gastrointestinal disturbances, indigestion and constipation play a passive part in their formation. Tight lacing comes in for a good share of the blame. The lithic diathesis is prominent in those who overindulge in food, or are mentally depressed or insane.

CLASSIFICATION AND COMPOSITION OF STONES.

They may be classified: 1, cholesterin stones; 2, cholesterin-pigment stones; 3, biliary-pigment stones; 4, carbonate of calcium stones. This is according to their composition. The cholesterin-pigment stones are the most frequent, as might be expected from the larger amount of cholesterin (75 per cent.) and pigment present in bile. A pure cholesterin stone is rare, and so is the calcium carbonate one. Although gallstones may form in any part of the biliary passages, even within the liver itself, in the shape of small ovoid greenish-black grains, still the vast majority form within the gall bladder and there remain or find their way into the larger ducts.

Special Properties.—Gallstones vary in color, size, shape, consistency, number and weight. When composed of pure cholesterin they are almost colorless, and the color darkens according to the amount of pigment entering into their composition. One calculus or several thousand stones may be packed into the gall bladder and ducts, varying in size from that of a grain of sand (gall sand) to several inches long. They may be round, ovoid, barrel-shaped, bullet-shaped, triangular, nonfaceted or faceted in one or many places. I have seen them take the shape of the gall bladder or portion of the duct where they were impacted. If composed principally of amorphous cholesterin the stone is soft, and can be broken between finger and thumb, but when the cholesterin is in a crystalline state, and especially if earthy salts enter into its composition, it is quite hard and can not be broken as above mentioned. A mixed gallstone is not much heavier than the bile itself, hence feeble contractions of gall bladder and ducts and a slow flowing stream of bile are sufficient to carry it to and fro in the passages.

A gallstone increases in size by additional layers forming on its external surface. It is not uncommon to find a stone in a duct a dozen or more times larger than the normal size of the duct in which it is contained. The last stone I removed from a common duct was ¾ inch in diameter and 1¼ inches long.

Intestinal obstruction is sometimes caused by a large gallstone. The manner of growth is best manifested by making a section of a gallstone. The center shows a nucleus consisting usually of bile-pigment and cellular debris. Around the nucleus are concentric laminæ with radiating lines from center to periphery. These layers are principally composed of the envelope-shaped crystals of cholesterin held together by mucus.

SYMPTOMS AND SIGNS OF CHOLELITHIASIS.

The routine recitation of the symptoms and signs of cholelithiasis, as found in the medical and surgical textbooks, is of very little value to the practitioner, student or clinician. The most characteristic evidences of the disease are manifested by suffering and jaundice, with their associated symptoms and signs. The sudden onset of regional pain and tenderness, with or without apparent provocation, lasting from a few minutes to several hours, with little or no pyrexia and normal or slow pulse; the pain and tenderness stubborn in yielding to applications of moist heat or internal medication and subsiding as suddenly as they began, *is a clinical picture of a stone or stones becoming impacted in the cystic duct and again receding into the gall bladder.* The posture sense of the pain is undoubted by the patient, and the higher sensibility in the gall bladder guarded by a tense right rectus muscle is easily demonstrated by the surgeon. The pain usually is sudden in its onset; its seat is sometimes far distant from the gall bladder; it often follows some exertion which increases the intra-abdominal pressure; may last for ten or more days; fever may be high from the start; and the subsidence of the pain quite gradual. In my experience the following order of frequency of pain may be referred to: (*a*) pit of the stomach; (*b*) the back near the angle of the scapula; (*c*) umbilicus, and (*d*) to different parts of the abdomen and body. But when the surgeon makes pressure over these places, very little or no tenderness is complained of, at which the patient expresses surprise. *Pressure over the gall bladder during an attack of colic always elicits local tenderness and increases the intensity of the local and referred pain.* The pain is intense while the stone is traversing the cystic duct, and suddenly becomes less severe in character when the concretion has either dropped back into the gall bladder or entered the common duct. Should the pain continue and jaundice ensue, the stone is evidently obstructing the main duct, but if sudden relief is experienced no doubt the stone has found its way into the duodenum. The pain usually becomes excruciating when a calculus is passing through the ostium duodenalis, the narrowest part of the ductus communis choledochus. The attack is now over and the jaundice clears away in a few days. There is a wonderful variation in the character and severity of the pain, and the constitutional effects differ very materially in individuals. It saps the courage of the bravest patients and "doubles up" the most robust and strong-minded individuals. Like many other acute suffering affections, where pain is the prominent subjective symptom, it disturbs all the great systems of the body, some to activity and others to retardation of function, and even death ensues at times.

In cases demanding operation, biliary colic may be present without gallstones, and gallstones may be present without biliary colic. I have opened the abdomen several times in search of gallstones and found none. In some of these the gall bladder was distended with bile and displaced medianward. The colic was well marked, severe in the one case, while in another, an aged lady of 70 years, it was so marked as to cause collapse and grave symptoms of sudden dissolution. A cholecystotomy cured them. I have termed this condition[4] in these cases "flexion of the gall bladder."

In several cases, inspissated bile, dark in color, and of a tarry consistency, filled the gall bladder and occluded the cystic duct. It was thick and tenacious and had to be scooped and mopped out. No gallstones were present. These had suffered repeated attacks of colic, some of them for years.

In other instances the gall bladder was converted into a retention cyst and it contains principally clear mucus.

4. British Medical Journal, Nov. 6, 1897.

The gall bladder is very tense and hard, there being a fibrous occlusion of the cystic duct.

In sixteen of my cases there was no clinical history of gallstones except gastrointestinal disturbances; twelve of these had dropsy of the gall bladder and the stone or stones in each were very large and latent, producing no pain. The gall bladder was greatly enlarged in each. An interesting case of gallstones without biliary colic was one of partial empyema of the gall bladder, with an extramural chronic abscess situated in the lumbar region, very much resembling a sarcoma. A large stone was impacted near the fundus of the gall bladder, dividing it into two cavities, a proximal space containing normal bile with large and small latent calculi, and a distal cavity at the fundus containing pus and communicating with the abscess cavity in the lumbar region. In 6 per cent. of my cases of chronic obstruction of the biliary passages, pronounced colic was absent, but in all of these there was a history of indigestion, constipation and colicky pains years ago, of short duration and judged to have been caused by food or exposure to cold.

It may be said that one attack predisposes to subsequent attacks. A variable time may elapse between them, even years. It appears to me that the more chronic a case is the more frequent and less severe is the colic. In several cases of chronic impaction the pain became almost constant, but not severe. From two to eight or ten attacks per day were not uncommon, the patient becoming completely incapacitated.

The causes of advanced biliary colic are: (1) spasm of the muscular fibers of the gall bladder and ducts; (2) forcible stretching of the duct wall; (3) spasms of the rectus abdominis muscle; (4) emotional disturbances; (5) inflammatory swelling of the mucous membrane of the ducts (Riedel), and (6) one authority goes so far as to say that "The so-called gallstone colic is suppuration of the gall bladder." This is a mistake. If it were so we should meet more frequently with cases of inflammation, ulceration, empyema and gangrene of the gall bladder. The fact is that in over 50 per cent. of my cases of gallstone colic no germs were found in the bile taken from the gall bladder and ducts. In my opinion, the local pain of cholelithiasis is mainly caused by two factors: first, by spasm of the muscular fibers of the ducts and gall bladder; and, second, by the stretching of the ducts and gall bladder. When the gall bladder and ducts become fibrous and so pathologic as to lose the power of contraction, then the stretching is the sole cause of the pain. There is no hollow viscus or tube in the whole body that can be forcibly over-distended or over-stretched without causing pain, whether that organ or passage be normal or diseased.

DEMONSTRATIONS.

I have repeatedly tested the sensibility, distension and contractibility of the gall bladder and ducts.

The first case on whom I demonstrated the cause of the colic to be over-stretching of the gall bladder and cystic duct was a Mrs. C., on whom I performed a cholecystotomy April 20, 1895. The operation was performed in the then recognized way, and an external biliary fistula followed, which I cured by a plastic operation August 10 of the same year. Between April and August I repeatedly sounded the cystic duct, mechanically irritated the inside of the gall bladder and over-distended it with water. Any quantity of warm water would pass through the ducts under low pressure, but whenever the douche bag was elevated, rapidly increasing the pressure and quantity of water entering the fistula, the gall bladder became filled to over-distension, because the inflow was greater than the outflow through the cystic duct, producing there and then her old-time typical gallstone colic. The pain was local, over gall bladder, and referred to the umbilicus and between the shoulders, just the same as before the operation. The passage of a small flexible bougie into the cystic duct gave rise to no pain until stretching occurred. The rubbing of the inside of the bladder with probes and bougies gave no inconvenience, but just as soon as an olive-pointed bougie or sound a little larger than the caliber of the cystic duct entered its orifice the typical colic of gallstones suddenly came on. These experiments I have repeated many times. From this I conclude that the spasm is an etiologic factor in gallstone colic when the power of contractibility is still present. When the bladder and ducts are fibrous, hard and firm, no pain is produced in them except by stretching. The etiology of the biliary colic may be schematically presented as follows:

CAUSES OF BILIARY COLIC.

The primary causes are: 1. Over-distension and stretching of the gall bladder and ducts. 2. Spasm of muscular fibers of the biliary passages. The secondary causes are: 1. Tonic contraction of the right rectus abdominal muscle, pressing an over-distended gall bladder. 2. Infection, causing inflammatory swelling. 3. Cancer of the gall bladder and ducts intensifying and continuing pain.

Vomiting is a common sign of biliary colic and is often very troublesome. It usually follows the pain, and is acute, the stomach contents, mucus and often bile coming up. When bile is vomited in jaundiced cases it shows that the obstruction of the common duct is not complete, and then biliary pigment can be found in the stools. When blood is vomited some gastric disease may be looked for. The vomiting in twelve of my chronic cases of gallstone impaction with jaundice became a daily occurrence and so easily provoked that no solid food could be taken. When the kidneys are diseased the vomiting is more persistent and frequent. If large gallstones are found in the vomited matter it is evidence of a fistula having formed between the gall bladder or biliary ducts and the stomach.

Nausea accompanies some chronic cases of vomiting and is provoked by the slightest pressure over the impacted stones. Clay-colored stools have long been recognized as caused by complete obstruction to the flow of bile. If small gallstones are found in the stools during or following the attack of suffering, they have escaped from the gall bladder and ducts per via naturales. If they are larger than what possibly can pass the ducts, then most likely they have come into the bowels through a fistula formed by means of pressure atrophy or ulceration. Enteroliths composed principally of gallstone material (cholesterin, etc.) sometimes obstruct the bowels. Indigestion, constipation, irregular tympany, cough, nervousness, emaciation, etc., are other signs of cholelithiasis.

In cholelithiasis jaundice is either acute or chronic, caused by absorption of the bile by the lymphatics. It is the most certain and frequent sign of an obstructed common or hepatic duct. It occurs in rare instances when no stones are in these ducts. I have seen the hepatic duct blocked with echinococcus cysts causing jaundice. Cases are reported where a large stone or stones in the gall bladder or cystic duct pressed on the common duct so as to obstruct the flow of bile. It is frequently caused by inflammatory swelling of the mucous membrane. It is not my experience that two-fifths of the

cases occur in this way, as stated by Riedel. On removal of the obstruction by operation, air or water may be forced into the duodenum. Immediately after relieving impaction of the ducts the quantity of the bile pigment in the urine decreases in some cases before inflammatory swelling could subside. I must say I have seen the jaundice deepen for two or three days after an operation. I have also noticed "suppression of bile" for several days after cholecystotomy. This may have been congestive swelling obstructing the ducts or caused by shock.

Beautiful theories as to the cause of jaundice have been advanced, based on the disturbance of liver cells (Liebermeister) and reflex nervous influences (Pick). When jaundice is not present in gallstone colic, we should not wait for its appearance before recommending an operation. It may never appear. The patient may suffer attacks for years with no jaundice, and it is often found that the stones in the gall bladder were too large to ever pass through the ducts. An interesting case was met by myself and others in which the common hepatic and large branches of the intrahepatic bile ducts were filled with calculi and still distinct jaundice never appeared. The bile must have trickled through between the stones. It is not an infrequent occurrence for bile to escape for a time around a large stone in a duct. The disappearance of jaundice in an acute case of colic does not, in the vast majority of cases, mean that the stone or stones have passed into the intestines and that spontaneous cure has resulted. Repeated attacks of jaundice with absolute freedom from it between the attacks is rather indicative of a supply of calculi within the gall bladder. Chronic obstructive jaundice, with attacks of colic, is necessarily incomplete; hence it may last for months or even years without causing death. Repeated acute exacerbations of jaundice engrafted on a chronic jaundice are indicative of a stone shuttling to and fro in the common or the hepatic duct. It is known as ball-valve action (Fenger). In one of my recent cases a stone was plying in the cystic and common ducts, causing colic and jaundice, the latter entirely disappearing between the attacks. The chronic jaundice of gallstone obstruction is characterized by improvements and relapses lasting indefinitely without producing profound cholemia, which is of clinical value in contradistinction to the chronic jaundice due to malignant obstruction of the common duct. The presence of bile in the urine is often the first sign of approaching jaundice.

Itching is a symptom of jaundice and universally affects the skin, frequently disturbing the patient at night. It is not always present and is obstinate to local applications.

In acute biliary colic, arising from a stone in the cystic or common duct, the liver dulness is increased. I have seen it extend to the level of the umbilicus. A local perihepatitis manifested by local pain and friction is sometimes present in cholecystitis and cholangitis. When the liver is enlarged, but not tender, the increased size is evidently due to the engorgement of the intrahepatic bile ducts.

Enlargement and distension of a normal gall bladder are always present in acute impaction of a stone in the cystic duct. In dropsy of the gall bladder, in retention cyst, in acute and chronic empyema of the gall bladder, in acute phlegmonous inflammation of it, and in impaction of many stones in the gall bladder it is enlarged. I have seen the gall bladder enlarged by great fibrous thickening resulting from colon bacillus, making it difficult to differentiate it from carcinoma macroscopically. In chronic impaction of the ducts the gall bladder becomes contracted and tender. It is well to recollect that in cases of chronic jaundice with or without a history of cholelithiasis and the gall bladder enlarged, the obstruction of the common duct is usually malignant.

The rise of temperature during biliary colic took place in about 52 per cent. of my cases. The fever begins after the pain and a chill may accompany it. It usually ranges from 99 to 101 F., but may reach 103. The pulse rate is not accelerated in proportion to the rise of temperature, but is often lowered. This biliary fever is still an enigma. It sometimes exists when no germs are present in the bile, but this does not exclude infection. The absorption of biliary constituents may account for it. In partial support of this view I wish to refer to a case[5] operated on on the 6th of July, 1896. In this case the gall bladder was perforated by a stone and the peritoneal cavity filled with bile. The temperature ranged from 99 to 100 F. for six days before the operation, and it subsided on washing out the peritoneal cavity and emptying the gall bladder of stones and bile. No germs were found in the bile. The "intermittent hepatic fever" of Charcot is found in certain chronic cases. In the presence of jaundice it is to be distinguished from malaria. The "chills and fever" occur sometimes with ague-like regularity (Osler). The fever is not changed by quinin, the spleen is not enlarged and no parasites are in the blood.

MEANS OF DIAGNOSIS.

1. *Evidence, Direct and Indirect.*
2. *Inspection, Palpitation and Percussion.*
3. *Deep Prod.*—Mr. Jordan Lloyd tersely described the value of giving a prod over the gall bladder with the closed fist, and if gallstones are present, considerable pain may be caused. It is a procedure of considerable value.
4. *Auscultation.*—By listening over the gall bladder the friction sound of local peritonitis and perihepatitis is detected, and thus the extent of recent inflammation may be defined. During the acme of colic the gallstones can occasionally be heard striking against each other. I did not believe this until 1889. I had a patient who passed through the hands of "Christian science healers" who did not consent to surgical interference. For twelve years she had suffered from gallstone colic in an intermittent manner and the last fourteen months of her life with persistent jaundice. The gall bladder was enormously enlarged, and the "rattling of the stones" could be heard while standing by the bedside. This peculiar sound was to her mind an omen of Nature's effort to break up and melt the stones.
5. *Examination of Blood and Urine.*—An examination of the blood for leucocytosis is of value in differentiating cholelithiasis, or in recognizing infection of the gall bladder and ducts as a complication. Examination of the urine very frequently reveals a trace of bile in obstruction of the cystic duct, even when there is no jaundice present, which is of value in making an early diagnosis of gallstones.
6. *The X-Ray.*—The Roentgen ray has not been of very much aid in my cases, but it appears to have been of value in the hands of others. It is to be hoped that this means may become of more value.

GANGRENE OF THE GALL BLADDER.

Gangrene of the gall bladder is sufficiently uncommon to justify me in reporting two cases, one due to infec-

5. Medicine, August, 1897.

tion and the other caused by over-distension of the gall bladder.

CASE 1.—Mr. J. W. S., age 59, merchant of Syracuse, Ind., April 3, 1898, was seized with biliary colic and called Dr. B. F. Hay of that town to relieve him. His pulse and temperature were normal, the pain was intense, only relieved by frequent hypodermic doses of morphin and local applications of hot moisture. A tender swelling, dull on percussion, was felt under the right costal arch. The liver dulness was enlarged and the area tender. On the evening of the third day the smouldering pain became infuriated to intense seizures of suffering, causing him to complain even when profoundly narcotized with morphin and abdomen covered with hot stupes. Slight tympany, a rise of temperature to 102, an increased pulse rate of 110 to 120 per minute and slight jaundice ensued. On the sixth and seventh days the tympanitis increased and extended over the tumor and lower border of the liver, the pulse and temperature remained about the same. I was summoned on the seventh day, and on arriving found that he had died about half an hour previously.

The temperature was at its lowest degree (100 F.) an hour before death, and the highest (105.2) ten hours previously, at which latter time the pulse was 120 and the respiration 32. His urine passed involuntarily, and he was unconscious nearly all the time, speaking distinctly once, eighteen hours before death.

Previous History.—With the exception of occasional slight and insignificant colicky pains in his stomach during the last two years, lasting but a few minutes, he has enjoyed the best of health.

Postmortem.—The findings in the abdominal cavity were as follows: A full length median incision allowed coils of distended bowel, normal in color, to protrude. On passing the hand adhesions were felt in the right lumbohypochondriac region, and nowhere else. A transverse cut through the right abdominal wall to the lumbar region fully exposed the pathologic condition. The right and upper border of the omentum was red, swollen, covered with thick lymph, overlapping the colon and gall bladder and adherent by delicate adhesions to these structures and to the parietal peritoneum and liver. An abscess was situated in the right lumbar region a little below the end of the twelfth rib, and contained about an ounce of pus. A suppurating track led from it to a perforation in the gall bladder on its anterior surface near the end. The edges of the perforation in the gall bladder were black and gangrenous looking. The gall bladder was about twice the normal size, tense and edematous to the touch, livid in appearance, with black spots showing through in many places. It had the manifestations of an advanced stage of acute phlegmonous inflammation. It was sausage-shaped and extended along the under surface of the liver beneath the costal arch. The adhesions surrounding it were very friable, and these being broken down, dark-colored fluid oozed from the surrounding tissues. The gall bladder was now opened. It was filled with dark-colored bile and 776 stones, varying from the size of half a grain of wheat to a large bean. The mucous wall of the gall bladder was gangrenous in many places, which here and there showed through all the coats of the viscus.

The ducts were laid open and found normal. All the other organs in the abdominal cavity appeared normal, even the vermiform appendix.

Bacteriologic Examination.—In Professor Kleb's laboratory at the Postgraduate the contents of the abscess and the fluid contents of the gall bladder were subjected to a bacteriologic examination. The former contained many slender bacilli of different lengths, mostly in chains, streptobacillus of pus and a few cocci, and the latter was found to have in it the *Bacillus coli communis.*[6]

CASE 2.—Mr. A. M. P., age 43, referred by Dr. Gentles; entered the hospital March 22, 1902, complaining of:

1. Slight pain in the right hypogastric region.
2. Tumor in region of gall bladder increasing in size.
3. Temperature 102 F. (rose from 99 in 3 hours).
4. Loss of appetite.

6. This case was published in Chicago Medical Recorder, May, 1898.

History of Illness.—March 12 patient came to Dr. Gentles complaining of uneasiness in the stomach. Tongue slightly coated. The uneasiness bore no relation to the digestion of food. On palpation a small tumor was discovered at the site of the gall bladder, the size of a walnut. This was almost painless on deep pressure.

March 16 patient returned unchanged. March 20 the gall bladder was somewhat increased in size. March 21 patient had an attack of acute pain which was relieved by morphin sulph. gr. ⅛. On the morning of March 22 the bladder was distinctly enlarged. Operation was advised and patient removed to the hospital.

Physical examination revealed a tumor in the region of the gall bladder, hard on palpation, movable and directly traceable from an inch above the level of the umbilicus to the lower border of the liver. The patient is a large corpulent man who has always been healthy.

Operation.—An incision was made over the tumor. The gall bladder easily found, very much enlarged and the upper third gangrenous. In color it was black, the luster of its peritoneal coat lost and in two places its coats were thin and would certainly rupture before long. The gangrene was evidently caused by over-distension of the gall bladder. On aspiration about 15 ounces of a black thick fluid were removed. Then several scoops of small gravel were removed. The gangrenous portion was cut away and the healthy part sutured to flaps of peritoneum and transversalis fascia.

Drainage tube inserted into the gall bladder surrounded by plain gauze. Gauze strips were placed from the anterior wound to the foramen of Winslow. Another drainage tube was inserted through the lumbar region to the foramen of Winslow. The incision was closed with silkworm gut.

After-treatment.—On the first day the temperature was 102.2 and pulse 112. On the third day the temperature was 99, and remained normal throughout. The wound was dressed first on the sixth day, and after that daily. During the last week in the hospital a slight quantity of pus was discharged from the superficial tissues.

Four weeks after the operation the patient left the hospital with a small fistula. Ten days later a slough of a major portion of the gall bladder came away through the fistula, and six days later it was completely closed. The contents of the gall bladder were sterile. His recovery is complete.

OPERATIONS DURING THE ATTACK IN BILIARY COLIC.

Waiting for the attack to pass off proved fatal in two cases that came under my observation, one of acute phlegmonous cholecystitis and gangrene of the gall bladder.[7] The man was ill for seven days with exaggerated symptoms and signs of obstruction to the cystic and common ducts, and also with undoubted evidence of infection, although he had for a couple of years colicky pains in his stomach, off and on, not deeming them of sufficient importance to consult a physician. This attack was his only severe one, and it killed him because he would not consent to an operation.

In another case death was caused by the severity of the colic. I had removed several small myomata from her uterus three days previous to the attack of colic which ended her life in six hours. This woman had a history of cholelithiasis, but refused operation. While waiting for the attack of the colic to pass off she sank and died from shock. The only pathology revealed by a postmortem examination was an over-distended gall bladder which contained bile, mucus and three enormous gallstones.

If infection is present, the sooner the gall bladder is uncompromisingly attacked and drained the better. In a well-marked case of biliary colic let it be even the first attack, the gall bladder enlarged, tender, etc., I can see no scientific or reasonable objection to the removal of the gallstones there and then during the attack.

7. Chicago Med. Recorder, May, 1898.

Early operation shortens suffering, prevents complications and obstruction of the ducts. No case should, in my opinion, be allowed to become chronic. Early gall-bladder surgery is safe and easy, while late operations are dangerous and difficult. The physician has no assurance from clinical experiences or pathologic findings that in a given case the attack will subside without causing (*a*) jaundice by obstruction of the common duct, which may remain until relieved by a serious operation; (*b*) rupture of the gall bladder; (*c*) ulceration and perforation by pressure of the stones; (*d*) death by the severity of the colic; (*e*) empyema, and (*f*) acute phlegmonous inflammation and (*g*) gangrene.

Treatment.—I shall not discuss the treatment at length, because it is fairly well established from a surgical point of view.

Incision.—The straight incision through the abdominal wall entering opposite the ninth costal cartilage and extending perpendicularly downward through the external border of the right rectus muscle is the one I make in preference to all others. It gives sufficient room in dealing with all conditions of the gall bladder. In removing stones from the cystic and especially from the common duct more room is often required; then from the upper angle of the straight incision cut upward and inward to the ensiform cartilage, severing skin, anterior and posterior sheaths of the rectus muscle, but not the muscular fibers or peritoneum, for they will stretch. This extension from the upper end of the straight incision affords ample room for all surgical procedures on the cystic and common ducts except the duodenal orifice.

PALPATION OF THE GALL BLADDER AND DUCTS.

The abdomen being opened the gall bladder is best palpated by two forefingers of the right hand. It feels soft and resilient when it is normal, and then by gentle but firm pressure on it against the liver it is readily emptied of its contents. Abnormal positions of the gall bladder are then looked for, and should flexion at its neck be detected it must be corrected by fastening it to the upper angle of the wound and thereby prevent it from again doubling on itself. It is astonishing the grave attacks of colic that may be caused by simple flexion of the gall bladder. Should the case be chronic, even though no stones are felt in the gall bladder and its contents readily pass through the ducts into the duodenum, biliary sand, catarrhal cholecystitis or atony of the muscular coats of the gall bladder is likely present and then the gall bladder should be drained externally. When gallstones are present in the gall bladder they can usually be palpated; should the gall bladder be very tense, aspiration of its liquid contents may be necessary before the stones can be felt. The gall bladder is in certain chronic cases so thick from inflammatory attacks that nothing can be felt but a cicatricial mass in the region of the gall bladder with old adhesions surrounding it, through which no stones are detectable. The mass must be split open to find them.

PALPATION OF THE CYSTIC, HEPATIC AND COMMON DUCTS.

This is best performed by the left hand, the surgeon standing himself on the left side of the patient. The two forefingers of the left hand are passed into the foramen of Winslow behind the ducts with the thumb coming immediately in front of them when a stone in the cystic, lower portion of the hepatic, or in the common duct except at the ampulla of Vater, is palpable between the thumb and fingers.

HOW TO ASCERTAIN THE PATENCY OF THE DUCTS WHILE OPERATING.

Probe.—A probe will not pass through a normal cystic duct on account of the spiral valve-like formation of its mucous membrane, but it can be easily passed through the common. On opening the gall bladder and emptying it of stones, bile, etc., it is often necessary, before complete work can be carried out, to ascertain whether the ducts are obstructed or not. A probe may detect a stone in them, but should you be unable to pass it through the cystic it may be open for all that, i. e., it may be normal or strictured, and for this reason the probe is unreliable.

Water.—I have frequently proved the patency of the ducts by forcing water through them. It will pass through ducts that allow the conduct of bile. An ordinary rubber bulb syringe is all that is required for this purpose. It is easy to use water by inserting the nozzle of the syringe into the incision in the gall bladder and tightening the viscus around it so as to prevent the water from returning and thus test the patulency of the cystic and common ducts. The quantity of water that passes into the bowel can be reckoned. For this purpose I have devised a special instrument which I here exhibit. On completing the test some care is required to prevent wetting the surrounding parts.

Air.—Dr. Van Hook was the first to employ air for testing the patency of the bile ducts, and he devised an instrument for this purpose. Air has the advantages of being always available, practically pure and it quickly balloons the duodenum. One squeeze of the same rubber bulb that I used for water will at once bulge up the bowel with air when the ducts are open. No special apparatus is necessary. The air test is the quickest, most satisfactory, and any rubber bulb that holds four or six ounces may be employed. It also requires less force to pass it.

CHOLECYSTOTOMY.

Incising, emptying, draining and suturing the gall bladder in place is usually not difficult. Of all the operations at our command for the treatment of gallstones, cholecystotomy has the widest range of usefulness. When properly performed with an understanding of its indications and limitations the results are excellent. In emptying the gall bladder of mucus, bile and pus a suitable trocar and cannula is the most efficient. I then wash out the gall bladder with an instrument so constructed as to allow a return flow, with water at the temperature of 115 to 118 F., and finally force the water out with air and thus prevent the water from wetting the wound or surrounding packing. No soiling of the peritoneum or wound should be allowed no matter what may be the contents of the gall bladder. Let the operator take it for granted that everything within it is capable of infecting the patient.

For the removal of stones I find that scoops of different sizes do the work most quickly and safely. The gall bladder should, in order to prevent a biliary fistula, be sutured to the inner aspect of the abdominal wall and at the upper angle of the wound. It should not, as we used to do, be sutured to the skin, nor to the lower angle of the wound. It is my practice to drain most every gall bladder that I open. There are several reasons for doing this. The first is that virulent germs may be present, and this can not be ascertained while operating. Second, catarrhal, ulcerative and inflamed conditions are also often present, which are best treated by drainage. The traumatism caused by the operator to the gall bladder itself, while removing gallstones from it, produces a

certain amount of hemorrhage and oozing of blood serum which had better be allowed to escape externally.

The drainage rubber tube is protected with gauze, and care is taken that it does not engage the cystic duct. If the end of the tube is grasped by the duct, the patient suffers from colic immediately after the operation. The operation of cholecystotomy by two stages seems to me quite uncalled for. It is not suitable for the most difficult cases of impacted gallstones, where deep jaundice or infection is present, and for the easy cases I can see no object for delaying the opening of the gall bladder at once. The drainage tube may be removed in four or five days should the bile be sterile. The indication for the permanent removal of the drain is the sterility of the fluid material coming away. The gall bladder should not be packed with gauze.

Cholecystopexy and cholecystendysis are fast becoming obsolete, and are procedures hardly worthy our deliberation.

CHOLECYSTENTEROSTOMY.

This procedure has a limited field of application. The chief indication for which this operation was devised—the cure of biliary fistula—no longer pertains because it is prevented by the proper performance of cholecystotomy. Should, however, the common duct be completely obstructed by cicatrization or malignant growth and a permanent biliary fistula thereby inevitable, then cholecystocolostomy should be performed.

CHOLECYSTECTOMY.

The removal of the gall bladder is indicated in primary carcinoma of that viscus, and when it is perforated in many places by a phlegmonous (gangrenous) inflammation. It is not even necessary to remove the gall bladder for retention cysts, because Drs. Mayo of Rochester, Minn., first published and demonstrated that the removal of the mucous membrane is all that is required. It is a simple and safe procedure. In cases of large retention cysts, and especially in hydrops of the gall bladder, its removal with its contents is surgical and comparatively easy to perform. When it is deemed best to give rapid escape to the bile, as in cholemia, the gall bladder had better be used for drainage purposes if for nothing else.

CHOLEDOCHOLITHOTOMY.

This is the removal of a stone or stones from the common duct. It has been performed in three different ways: First, by attacking the duct from the right of the duodenum, known as the external route. The second is exposing the duct from the left of the duodenum, and the third method is the transduodenal. The second of these has been properly discarded. So much has been written and said about choledocholithotomy that it is unnecessary to repeat it here, and the transduodenal route is only suitable when the stone is impacted in the ampulla of Vater. Stones in any other part of the common duct can be removed by exposing it to the right of the duodenum. Suturing of the common duct, after the removal of a stone or stones from it, is not at all necessary. I have demonstrated to my own satisfaction that the duct will close within three or four weeks, and all that is required is to have Morrison's pouch and the opening in the duct completely drained.

In removing stones from the cystic duct an effort is first made to force them back into the gall bladder; failing in this even after dilatation of the neck of the gall bladder, the stone or stones must be cut out. It is best to cut the peritoneum parallel to and above the duct and then open the duct on its upper surface. The peritoneal flap is then returned and sutured in place.

HEPATOTOMY.

Incising and draining the liver in certain cases of gallstone impaction with jaundice and cholemia is a procedure advised and practiced by Dr. W. E. B. Davis[8] of Birmingham, Ala. Dr. Davis said: "The point I want to make particularly is this, that in those cases where we can not reach the gall bladder or the main ducts, we should open the liver and drain it for biliary obstruction. After the patient has recovered from the cholemia and exhaustion, if the duct has not been cleared, a radical operation should be undertaken for the removal of the obstruction." It is a procedure worthy of further trial. It served me well in one case of cholemia.

DISCUSSION.

DR. W. J. MAYO, Rochester, Minn.—As to the question of exposure: Robson is in favor of making a space large enough to draw the liver well up and out with the hand, exposing the ducts; Lange severs the costal cartilages to increase the room; in our experience, by cutting the gall bladder loose from the liver it can usually be drawn out of the wound, exposing the ducts. This allows the liver to recede and gives more room. As to adhesions: I would warn against their extensive division in acute infections, if they are not giving trouble, as they are a good barrier to the extension of the infection. In stones in the common duct we locate the stone without too much exposure and, following the suggestion of Dr. Elliott of Boston, place a suture in the duct each side of the stone, using it like a stocking ball in darning. This gives control of the duct and also by tying across acts as sutures. Davis of Birmingham first called attention to the necessity of drainage of the hepatic ducts. This is very important. These cases sometimes die from lack of free drainage from the liver. The drains should be tied in place with catgut, causing it to remain *in situ* until adhesions take place, otherwise they become displaced.

DR. W. E. B. DAVIS, Birmingham, Ala.—Dr. Ferguson has referred to the operation—hepatotomy—which I have recommended in a class of cases of biliary obstruction. As stated in my paper on this subject, the operation is indicated in cases of obstruction with enlarged liver, where the gall bladder or ducts can not be isolated, or the patient's condition from exhaustion and cholemia will not permit of a protracted search for the bladder or ducts. It will be only exceptionally called for and the cases will be fewer as the surgeon's experience increases in choledochus operations as he will then be enabled to better locate the bladder and ducts so much changed by inflammatory processes. After the patient has been relieved of cholemia by the escape of bile from the incision in the liver, an operation with less danger may be done for the removal of the obstruction in the duct. In addition to the above indications I think the operation should be resorted to in hepatitis before it has reached the stage of pus formation, if the liver does not rapidly become smaller after drainage of the biliary reservoir or the ducts. My attention was first attracted to the value of the procedure in a case in which the amount of pus removed was not more than one-half ounce, but in which the division of the biliary canals resulted in the escape of large quantities of bile for many weeks.

DR. JAMES E. MOORE, Minneapolis—We are still interested in all cases that are not very well understood and in the diagnosis of those in which the cause is obscure. We can naturally make parallels between stones in the gall bladder and stones in the bladder. Recently I heard some very interesting points bearing on this condition, and it was suggested that in Minnesota there must be some climatic cause for gallstones, as there were so many operations, but the truth is that a diagnosis is made. Local tenderness is a prominent feature, and we should lay great stress on this. Dr. Robson pays great attention to this point, and the Mayo Robson point should be as familiar to us as the McBurney point. I have one interesting experience in the matter of pain as a diagnostic feature. A

8. Southern Surgical and Gynecological Transactions, vol. xiv, p. 246.

man 35 years of age had repeated attacks of pain about 2 o'clock in the morning. The pain was excruciating and was accompanied by vomiting. If he would lie down on his left side a tumor appeared in the median line. I made a median incision and found a large gall bladder full of stones with abundant adhesions. I removed the gall bladder through this incision. As to the attachment of the gall bladder at the upper end of the wound, Dr. Ferguson says this should always be done in order to avoid a sinus, but I think this depends on the size of the liver. I remember one case where it could not have been done on account of the right lobe of the liver coming so low, so that there are exceptions to this statement. I fastened the gall bladder low down in this case and no sinus resulted. I am sure that a sinus depends on the manner in which the gall bladder is attached to the abdominal wall and not to the location.

DR. DUDLEY P. ALLEN, Cleveland, Ohio—Two years ago I had, during a period of about five weeks' practice, five cases of suppuration of the gall bladder. That cases of this kind occur frequently and are so serious when they do occur, is a strong argument in favor of early operation. Not only are cases of acute suppuration serious, but also those in which there has been long-continued inflammation so that all of the tissues surrounding the gall bladder and ducts are firmly united to them by inflammatory adhesions. On the other hand, inflammatory conditions of the gall bladder, whether associated with stones or not, if taken early are usually operated on without serious risk. Beside, there are many cases in which there are indefinite symptoms of distress in the epigastrium, often long continued, and sometimes supposed to be due to malignant disease, which on exploration are found to be due to the presence of gallstones. In a very considerable number of such cases I have found on exploration conditions which could be entirely relieved. Frequently gallstones exist for a long period, and although they do not give the classical symptoms of jaundice, colic and vomiting, they still may cause grave disturbances of digestion and depression of the general health. I would strongly urge, therefore, the importance of exploration in cases where the symptoms point toward difficulty in the region of the epigastrium, even although a positive diagnosis can not be made. The dangers of an exploration are slight; the chances of benefit have, in my experience, been far in excess of what I could have anticipated and inasmuch as late operations are beset with greatly-increased severity and danger to life it would seem to me that we are warranted in taking a strong position in favor of early exploration.

DR. JOSEPH RANSOHOFF, Cincinnati—As to the diagnosis of gallstones, we often operate on the kidney and find nothing wrong, but this does not often happen with the gall bladder. We have no single positive symptom indicative of gallstones, and yet there is something about a case in which we suspect gallstones that, when operated on, will certainly show something. If there is nothing in the upper portion that is positive, particularly where the symptoms are especially developed on the part of the stomach itself, it is probably safe to come to the conclusion that there is something wrong with the gall bladder. As to recurrences, secondary operations have had to be done in some cases, but as to whether there had been a recurrence of the gallstones is an interesting question. Years ago I read a paper on this subject. I then said, and say now, that almost all gallstones that one finds in the gall bladder are nearly alike in shape and size; everything seemed to indicate that they were formed at one and the same time. If we do have to operate a second time it is usually because one or more stones have been overlooked. We occasionally promise our patients, where their gall bladder is emptied, that they will be freed from their disease, and as we are reasonably certain the operation has been complete, there is but little danger of a return of the condition.

DR. R. H. GIBBONS, Scranton, Pa.—Dr. McBurney did not offer the operation through the duodenum as a matter of choice, but as a matter of election. It is only when the stone is low down in the common duct next to the intestinal wall that he recommends it. This operation, transduodenal, was given to the profession only after thorough trial by McBurney himself, as has been given all the other surgical procedures of this not only distinguished but remarkable surgeon. The place that he has given to the method it still maintains, and in no other route can a stone, situated low down in the duct, in the ampulla, be removed by so easy, hence safe, a method as by this. The one great danger, it seems to me, in dealing with a stone low down in the duct, is injury to the duct of Wirsung, which is now looked on as being the chief cause of hemorrhagic pancreatitis. In what safer way can we keep from injuring this important territory, the ampulla, where the duct of Wirsung empties through its mouth, than by this cleverly-designed operation of one of our great American surgeons, the transduodenal operation for stone in the common duct, or, more strictly speaking, McBurney's operation for gallstones?

DR. MILES F. PORTER, Ft. Wayne, Ind.—The place at which the gall bladder is attached is not so important as is the manner of its attachment. The manner and not the location is important. Pull it out and stitch it to the skin and you will have a fistula for a long time. Stitch the gall bladder to the peritoneum only and the fistula will soon close.

DR. ROBERT F. WEIR, New York—I am in accord with those who have advocated leaving the wound of the common duct open and not sewing it up. Let it drain and supplement the drainage by the use of Cathcart's or Dawbarn's apparatus. I use a large glass tube through the abdominal wound down to the wound in the common duct, and in this a smaller tube is carried, through which siphon suction, if used, is resorted to. Another point is that in some cases where we have not been able to determine previously whether the common duct is patent or not, or when you have operated on a case where you have found a stone in the gall bladder and you do not know whether there is another blocking up the passage, I resort to a little method of my own. At the closure of the opening, when the gall bladder has been fastened to the peritoneum and just before the drainage tube has been put in position, which I secure with a purse-string suture, I place a small pellet of methylene blue into the gall bladder. If the tube is patent it will escape promptly into the intestines and color the feces, and this doubtful point will then be settled.

DR. HENRY O. MARCY, Boston—I disagree with one of the speakers, who said that this question is comparatively a settled one, as the conditions are always questionable until the abdomen is opened. We should make our diagnosis sufficiently correct to warrant an exploratory operation, and then be governed by the conditions actually existing. I believe that a large share of these doubtful cases, such as come to the majority of us, are of neglected conditions, due to unwarranted delay. If we operate early everything gives promise of an easy cure. I am glad to feel that I am growing more and more enthusiastic in reference to the surgery of the gall bladder, and yet the last case on which I operated a few days since died. The pathology seems to show that it was simply an obstructed duct from a paralyzed and dilated gall bladder without any calculi. The gall bladder was extremely dilated and filled with very thick bile, the duct being patent. The woman died from cholemia. It was easy to determine that we had a patent duct, but the cholemic conditions were so marked and the operation had been so long delayed, because it was thought to be cancer, that the end was fatal.

DR. FERGUSON—I have three cases where the gall bladder was sutured to the abdominal wall at the lower angle of the wound and three fistulas followed, one in Johns Hopkins, one in Cincinnati, and one in Chicago. The gall bladder should always be attached to the upper angle of the wound, as this will enable us to drain while the patient is lying down. I never saw a case of recurrent gallstones. I had one sent to me as being such a thing, but it turned out to be a large roll of silk used in the operation. I have operated on the gall bladder and found no stones. Colic had been very severe, and was due in two of the cases to flexion of the gall bladder, it being downward and inward. Overdistension occurred, as it could not empty itself. By fastening it to its proper place the patients were cured. I believe in draining every gall bladder I open, so that it may

contract down and act as a tube draining the liver. I do not condemn cholecystectomy when it is indicated, but I believe in leaving the gall bladder there when you can, as it will act as a drainage tube.

Suturing of the common duct I have practically discarded, as it prolongs the operation, and you do not get the proper drainage. If you have infection present and you suture, you do a bad piece of surgery. The very cases where you can suture the common duct are those where the bile is sterile, and in all these cases it is necessary to drain. I use the Packard string in my operations, and it has fulfilled all the indications for me. I would like to say a word about the severe cases. You have all the clinical evidence of fulminating appendicitis and perforative appendicitis. These cases should be operated on instantly.

VENEREAL PROPHYLAXIS THAT IS FEASIBLE.*

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In attempting to speak on the prophylaxis of venereal diseases before so highly a representative body, the reader is conscious of the fact that he has only very little to offer that is new and that has not already engaged the minds of his peers assembled here. The topic is of vast importance to the well-being of the people, whose working and earning capacity is encroached on, not so much by the active accidents caused by those diseases, but much more through their chronic manifestations, especially in women. My object is that the profession as a whole should take cognizance of this ever-present scourge and its dangers to society, through the medium of the American Medical Association, and that a propaganda of action should be instituted by the members in their different states to devise measures for diminishing the spread of and for reducing the morbidity and mortality from venereal diseases.

In New York City we had occasion to witness two efforts within two years dealing with this question. The one emanated from representative and public-spirited citizens forming a Committee of Fifteen, to institute a search of inquiry into the causes of prostitution, especially in the tenement houses. This wave of reform stirred the medical profession from its latent endeavor into action, and as a result the President of the Medical Society of the County of New York, in pursuance of a resolution adopted by the society Feb. 25, 1901, appointed a Committee of Seven for the "study of measures for the prophylaxis of venereal diseases."

The able report of its chairman, Dr. Prince A. Morrow, has no doubt been perused by you. The writer enjoyed the privilege of serving as secretary to the committee and of analyzing and classifying the returns which came as answers to the circular letter sent to the profession of Greater New York. He is therefore somewhat acquainted with the ideas held by the profession here on this topic.

In attempting to deal with the prophylaxis of venereal diseases I am well aware that I am dangerously near to a very delicate topic, prostitution, and that I am running the risk of becoming engaged in the maelstrom of arguments for and against its reglementation, its segregation or its tacit toleration, and of an array of opinions which have been recommended and condemned by their exponents in good faith. At the same time, I would have to take issue with the state authorities for their inaction in reference to our topic and for their neglect to take notice of a class of diseases which inflicts severer misfortune to the population than all other scourges together.

I would have to cross arms with those Utopian moralists who interfere with every attempt of sanitary intervention in venereal diseases, by their sincere but bigoted hyper-puritanism and utterly misdirected efforts of trying to change human nature under the prevailing socio-economic conditions. Let me emphasize in anticipation of the following that the reader, as well as every one of us, no doubt, would hail with delight that advent of the expected millenium when the moral sense of humanity will have developed into that sublime conception of purity of thought and action which looks on the consummation of marital relations as the solemnized and only legitimate means of satisfying physical love for purposes of mutuality and procreation.

But if we study the natural history of mankind from its primeval states of herding of clan and kinships up to the foundation of orderly communities, under self-imposed restrictive laws, we find that the individual who renounced his rights for the good of the common weal, reserved polygamy, of which he would not suffer himself to be deprived. With the dawn of civilization the innate sense of jealousy became more conscious in men, developing in them the desire for possession, and urging them on toward polygamy. But the very same moral shortcomings gradually paved the way towards monogamy also. It was now the ardent desire for sole possession engendered by the nobler traits physiologically inherent in the female which appealed to the awakening moral sense of man.

Christianity fostered these sentiments and monogamy became the status of all civilized peoples. However, by the law of atavism, an occasional retroverting into the barbaric state of remote ages, a dormant inclination or propensity towards polygamy is dimly extant in man. This defect must be looked on as a physiologic weakness. These polygamic proclivities, attenuated as they are by the influence of religion, education and science, and through the monogamic conditions of many thousand years, are not as yet entirely eradicated in man.

Women possess a higher sense of morals, developed in them through ages by the physiologic process of child-bearing, engendering in them that supreme motherly love, limitless self-denial and readiness for sacrifice which we all admire so much. In women polyandric tendencies are almost extinct, as a rule. If present, such atavism is of infinitesimal proportion and a factor well-nigh negligible.

In those rare instances where such atavism in women manifests itself in a marked degree we are justified to see stigmata of degeneration, caused probably by the presence of aberrant cell formations in the brain of primeval origin. A life of vice in women indicates therefore a deeper downfall and a retroverting into primitive conditions out of which Nature has elevated her.[1] If we add to these atavistic abnormalities the influence of adverse socio-economic conditions, we will at once perceive how such tainted characters of lesser value might succumb, producing as a type a fallen woman. The evolution of prostitution therefore is a biologic as well as a social phenomenon.

While the above views are in line with those held by such authorities as Lombroso and Tarnowsky, there are

* Read at the Fifty-third Annual Meeting of the American Medical Association, in the Section on Cutaneous Medicine and Surgery, and approved for publication by the Executive Committee: Drs. W. T. Corlett, L. Duncan Bulkley and W. L. Baum.

others who attribute to this theory of evolution some, but not the main, importance. It is held by them that the prostitute is in the main the outgrowth of environment, of socio-economic conditions and of the sexual hyperactivity of man. Be that as it may, prostitution must be regarded as the fountain head from which venereal diseases originate. It forms the main source from, through and toward which courses in an unbroken vitiated stream the poison which inoculates the living and contaminates those yet unborn. In comparison to this, all other modes of propagation are *nil*. In order to stamp out venereal diseases absolutely prostitution must be annihilated first. No prostitution, no venereal diseases. To prevent them some measures must be instituted against it. Any prophylaxis instituted against their spread must necessarily begin with measures directed toward either the suppression or repression of prostitution.

SUPPRESSION.

But since prostitution *can not be suppressed*, and history shows that it resisted every onslaught, it should not, but it must be regarded as an inevitable evil, a phenomenon as old as the legends and the history of humankind itself; and so long as man must be defined as an "intellectual being limited by sensuality," so long will the absolute "crucifixion of the flesh" be an impossibility, contrary to the spiritual perceptions of the dominant mind.

REPRESSION OR REGLEMENTATION.

The sanitary supervision by reglementation of prostitution endeavors to influence the inevitable evil, by searching for diseased prostitutes and subjecting them to police surveillance and compulsory hospital treatment when diseased. While such measures would in a way undoubtedly diminish the sources of contagion, yet the vastly larger number of the yet more dangerous unregistered clandestine prostitutes would remain exempt from its provisions. Furthermore, registration carried out with thoroughness will, in order to escape degrading sanitary police measures, invariably diminish the number of public prostitutes and augment the ranks of the clandestine ones. Regulation of any kind, at first glance so easy and seductive, is in reality one of the most complicated problems with which the best elements of continental countries have tried in vain to cope. Paris has a century of unsuccessful experience with it. It always strikes home and jeopardizes the very condition for the relief of which it was created.

Besides, the registering of prostitutes, so alien to the American idea of consideration even toward fallen women, meets, as it did in St. Louis in 1872, with an abhorrence of public sentiment against legal recognition of vice. But besides sentimental notions there are, as stated before, more valid reasons which complicate the question.

In the social order of to-day so many factors converge in the make-up of this complex question—constitutional rights, restriction of personal liberty, infringement of private rights, moral considerations, and so forth—that reglementation proved futile and suppression a Utopian idea. While looking on prostitution as a vice, and not as a crime, the punishment of which is not strictly within the province of the government, prostitution will, when regarded with a sense of tacit toleration, work out its own destiny. As the law forbids the existence of an disorderly house in tenements or within a certain radius of a school, a church or a young men's club, such resorts will, with their well-known tendencies of aggregation, occupy less conspicuous quarters, and a natural self-evolved segregation will take place, excluding police interference and blackmail, with a possibility of better sanitary conditions. Furthermore, laws should be enacted for the suppression of quacks and dispensing druggists. Sick-benefit societies should be compelled not to exclude, as they do now, diseased venereal members from the benefits granted by such organizations.

SOCIAL, ECONOMIC AND LEGISLATIVE MEASURES.

The entrance of women into self-supporting industrial life has surrounded her with dangers, against which she must yet develop defensive measures; but it is the duty of the state to lend her a helping hand to cope with a new condition. To this end the existing labor laws (mercantile and factory laws) must contain some new provisions, such as the minimum rate of wages for female employes over 16 years of age shall not be less than a sum sufficient to keep such a person in food and clothing according to the prevailing social conditions to which such an employe is reasonably entitled. Division of the sexes in workshops. Working women's and men's compulsory sick-benefit, accident, invalid and old age insurance societies and mutual aid and loan associations for industrial workers, to tide them over in time of non-employment. Asylums where friendless working women could find accommodations at nominal rates, or where in temporary embarrassment or if out of work they could be accommodated gratuitously in lieu of some work exacted from them, such benefit to be accorded only on recommendation of a charity organization society. Better housing facilities,[2] shorter working hours, extension of the eight-hour law as constituting a day's work. In addition, industrial schools, cooking and servants' schools should be established.

A provident educational law,[3] like the one introduced in Prussia in 1900, should be created, which endeavors to minimize the dangers to minors, putting those of evil propensities under responsible guardianship until they have reached their twenty-first year.

EDUCATION.

Education is the most potent of all factors and the most difficult to yield immediate results. A campaign of education instituted along all social lines will bear fruit slowly but surely. For those of both sexes whose schooling terminates on entering into industrial life—in New York the fourteenth year—evening reading classes, lectures on sexual hygiene, on abuse of alcohol, etc., should be furnished by the board of education and delivered by school physicians of the respective sexes.

Trade schools with gratuitous instruction and labor employment offices connected with the above-mentioned asylums should be founded. Respect for women, such a great factor to enhance purity of thought and action and to promote self-restraint, is sadly neglected nowadays; this is due to the promiscuous intermingling of sexes in industrial life. There is a tendency in the male element of losing its chivalry towards a female since the latter has entered into competition with him. This is one of the unforeseen stages in the evolutions of character, a symptom of new conditions.

For both sexes whose curriculum of education extends to high schools and colleges, a course of obligatory lectures delivered by teachers of their respective sexes and dealing with the dangers of venereal disease with rare tact and delicacy, will prove a great educational factor for disseminating a necessary knowledge of nonprurient character. Physicians, as the sanitary counselors of families, can find a promising field for ex-

plaining and teaching on these delicate topics, when parents would feel a natural reluctance of proceeding. As a thorough education of the medical profession on the topic of venerology is one of the greatest allies for combating venereal diseases, students should be given a broader instruction in venerology. It should be included in the curriculum as compulsory, and a rigorous examination required as an essential requisite for obtaining a diploma.

As a step in the right direction must be regarded the delivering of lectures at the German universities, in which students are recommended to lead a chaste life and impressed with the dangers of sexual diseases and of the intercourse with prostitutes, and that continency is perfectly compatible with health. Eminent professors have issued a warning appeal to the students, which is handed to them at the time of the matriculation and otherwise distributed broadcast and given a place on the bulletin boards.

As police regulations have proven irksome and unpromising,[4] and continental sanitary regulations do not yield the results expected from them, we must try to reach the point of advantage by a rather indirect road. Measures almost paternal in their conceptions are the somewhat circuitous but safest routes to accomplish something. Results will not show at once—it took ages to develop what we have, and only succeeding generations will harvest the fruits of our labors—but commence we must, even if the liberty of some individuals is encroached on. I declare most emphatically that the state can not afford to neglect to take cognizance of the plague with impunity, and that between the unwholesome conflict of sanitary and moral interests we have found that morality is in no way increasing by relegating the sanitary aspect of the question to the background.

Some state legislation, not necessarily reglementation, is needed, and constitutional objections will have to be removed by previous amendments. The law, however, should interfere where vice exhibits itself in a shameless and provocative manner in streets, low resorts and shows; it should suppress low-grade sheets devoted to the exploitation by word and lascivious illustrations of scandalous gossip and glorification of adventuresses and the demimonde.

According to Blaschko,[5] of 573 unmarried syphilitic men the source of infection could be traced in 487 instances, i. e., in 81 per cent., to prostitution. In Fournier's 873 cases of syphilis, 671, or 77 per cent., were due to prostitution. In St. Petersburg, Tschikchajeff found that out of 500 cases of venereal diseases 73 per cent. could be traced to prostitution. In Budapest 85 per cent., in Braila (Roumania) 80 per cent. of all venereal diseases were due to the same source. It has been found by Hammer in Stuttgart that every prostitute becomes infected with gonorrhea at least once in a year, and that according to Blaschko one-third to one-half of all prostitutes of Berlin are continually afflicted with gonorrhea. Jadassohn in Berne came to the same conclusion. Sperk in St. Petersburg found 83 per cent. of all prostitutes syphilitic after the first year. Schulz, Budapest, found 65 per cent. infected with gonorrhea. Neisser found that in Breslau of 572 prostitutes 217 had gonorrhea. Blaschko found that two-thirds of 200 males get their syphilis from public, one-third from clandestine, prostitutes. There are, according to the same authorities, 150,000 syphilitics in Berlin, or 12 per cent. of the inhabitants; in Paris, according to Le Noir and Fournier, from 13 to 18 per cent.; in Copenhagen one of every 55 young men of the age between 20 and 30 has syphilis and one in 8 has gonorrhea. In the city of New York Morrow[6] estimates the number to reach 200,000. The same ratio holds good with very little oscillations in every capital or large city.

In their returns to the circular letter sent out by the Committee of Seven of the Medical Society of the County of New York, 678 physicians reported 23,196 cases of venereal diseases, of which 11,968 were traceable to prostitution. Among a student body of 600 in Berlin belonging to a sick-benefit association, Blaschko found 25 per cent., Neisser in Breslau 10 per cent., Strohmberg in Dorpat 24 per cent. afflicted with syphilis; all students of the latter town, however, had had gonorrhea traceable to prostitution.

These numbers could be multiplied infinitely, but enough has been shown to convince any one open to conviction that we have to look on prostitution as the main causative factor for the spread of venereal diseases. The moral regulation of vice presupposes an adaptability of the human character to lofty ethical requirements, to which the inherited taint of ages and the reigning socio-economic conditions have ill-fitted it. It is true that prostitution poisons both mind and body, but it is not clear why the physical aspect of its consequences should be treated as a secondary consideration. The endeavor of the moralist to regulate vice by exclusively ethical means is a too rigid adherence to abstract reasoning, the results of which are slow of materializing. The present status of things needs a quicker remedy. Moralists and sanitarians must meet by mutual concessions on a common platform. There are good points in each system, but better ones yet in a blending of both.

It is in this sense that we must hail with delight the excellent report of the Committee of Fifteen of New York,[7] in which men of the highest standing in the community and of unimpeachable character recommend for the first time sanitary steps also. While not recommending sanitary regulation *per se,* it voices the necessity of increased hospital facilities for those afflicted with venereal diseases, and in recommending so-called moral regulation of vice, it does not entertain the delusive hope of seeing human nature changing in a single generation, but with the ultimate end of moral redemption from the degrading evil. This deviation from the inflexible standpoint of the moralist, with his adage, "Let them rot in their own vices," so alien to the teachings of the highest humanity, will imbue the sanitarian with hopes that a mutual understanding is possible. Until such combined efforts will meet the realization we must try to add to our armamentarium any measures that have proved efficacious in preventing venereal diseases.

And this brings me to the consideration of individual prophylaxis, which, under the present conditions, is the nearest measure available.

GENERAL INDIVIDUAL PROPHYLAXIS.

The danger of acquiring syphilis or ulcus molle is a remoter one than that of gonorrhea. Its contagion not being perfectly known, neutralizing agents could not as yet be devised. Until science places at our disposal an immunizing and healing agent like Behring's diphtheria antitoxin, we are compelled to utilize the meager results of clinical experience.

It seems as if circumcision would diminish somewhat the chances of acquiring syphilis. The statistics given by Joseph and Hutchinson must be taken, as they themselves guardedly say, with precaution. But future sta-

tistics on this topic might prove of interest.[8] I may be permitted to allude here to the dangers of ritual circumcision when performed with no regard to asepsis whatever and to the possibility of transmitting syphilis. As this operation is as yet performed in a great many instances, a law permitting physicians or graduated circumcisors only to do the operation would prove to be a prophylactic step that is feasible.

The entire class of syphilis insontium, so ably dealt with by Bulkley of New York,[9] showing us the manifold routes by which extragenital lues is acquired, gives us an incentive to warn people against the most common sources of such unfortunate infections. Infection has been carried by ragged-edged drinking glasses and knives, cigar holders, cigars, the tips of which were molded between the lips of syphilitic workers; by razors, powder puffs, shaving cups, strops, towels; by dental, ear and laryngoscopic instruments; by glass-blowers' pipes; by the mouth pieces of speaking tubes and telephones; by the use of common drinking mugs and communal cups;[10] by lead pencils; by vaccination; by hypodermic needles, and by manicurists' tools. The latter class, through their indocility, are a menace to health and second only to the dirty-tooled and dirty-nailed dentists abounding unpunished among us. These economic brephotrophic and technical infections (Bulkley), every source of which can not be mentioned here, form a legitimate field for feasible prophylactic measures. Trade sanitary laws for glass blowers, barbers, manicurists, cigar makers, etc., are urgently needed. Concerning wet nurses, a medical examination of both wet nurse and infant must be made obligatory, and a law, making it a punishable offense for each party to knowingly impart syphilitic infection, must be put on the statute books. This is a truly necessary and feasible prophylactic step.

In the recent and most successful crusade against tuberculosis in New York a spitting and more recently a smoke ordinance was promulgated, which can not be too highly commended.

It is with a feeling of regret that I mention the great gulf that separates our endeavors from the community, which, like most of the states, take no interest whatever to institute a sanitary prophylaxis of venereal diseases. Tuberculosis we all know to be one of the greatest scourges that afflict humanity, but the hecatombs exacted by the sequelæ of venereal diseases in guilty and innocents alike, cry towards heaven. Certainly we do not envy the poor tuberculous patients their state and communal sanitariums, but we should like to see a modest mite come our way also, in the form of larger hospital facilities and of asylums.

SPECIAL INDIVIDUAL PROPHYLAXIS.

The aim of individual prophylaxis consists in destroying the pathogenic germ before incubation has set in. Generally, the condom is too rarely used. As to syphilis, the use of ointment has been recommended long ago as offering some protection, and lately mercurial ointment has been recommended by Behrman,[11] and P. Cohn[12] looks on it as a useful prophylactic. There is some reason to expect that it might act preventatively as a protecting film, and as a local immunizing agency by virtue of its antidotal qualities.

Acting on this principle, Richter[13] has devised a melting bougie of the formula, unguenti cinerei 40 per cent., resorcini 0.25 per cent., the tip of which is introduced into the urethra, broken off and left there to melt. He reports encouraging statistics. As to ulcus molle, caused most probably by the streptobacillus of Ducrey-Unna, general prophylactic measures, washing with permanganate solution, ointing of the membrum as before said, and in case of its appearance, excision or cauterization with pure carbolic acid are feasible prophylactics.

Gonorrhea is the only one of the trio of venereal diseases where individual prophylaxis is efficient with a promptness almost bordering on security. Its contagion being a fixed one—the gonococcus—agents for its destruction have been devised with success.

While lues can be acquired in an innocent way, gonorrhea is most closely allied to prostitution. If we could annihilate prostitution, gonorrhea would disappear. But as we can not reach that goal under the present moral evolution of the race, it is our duty to lessen the ravages of an evil which we can not inhibit, try as we may. Here we must act as sanitarians mainly, considering it moral to intercede and criminal not to prevent infection, when in the largest number of cases we are well able to do so.

We know that about 80 per cent. of all men have had gonorrhea once or several times; that gonorrhea is not only a local but in many instances a systemic disease, attacking almost every structure, as pointed out by Bernutz in 1857,[14] and especially by Noeggerrath in 1872,[15] and the causative factor—especially in its latent form—of the most severe kind of pelvic diseases in women, produced by the gonococcus or its toxins.[16] It causes sterility in both sexes,[17] ophthalmogonorrhea[18] and blindness in the new born, and often mutilation of the female generative organs. Gonorrhea being most obstinate of curing—the modern one-minute cures notwithstanding—usually leaves behind more or less extended structural changes of the urethra, its follicular apparatus, or the accessory glands. The dangers to health and to the capacity for work and earning are greater than that of syphilis.

The proportion of gonorrhea to other venereal diseases is, according to Neisser, 47.3 per cent. of the whole number, according to Blaschko 70 per cent., syphilis representing respectively 42.4 and 22 per cent., and soft chancre respectively 10.4 and 8 per cent. This cursory allusion to the social danger of gonorrhea is sufficient cause for advising individual prophylaxis that has proven both successful and feasible.

It is, to my knowledge, the first time that the topic of personal prophylaxis has been brought before an American Medical Association audience, and it is with a feeling of reluctance that I try to interest you in this branch of preventative medicine. You may feel assured to find yourself in harmony with the best authorities of our branch and in enviably good company. Let me quote some references to this end and in a casual way. According to Neisser 50 per cent. of all involuntary childless marriages are due to gonorrhea of the female genital organs, of which at least 45 per cent. are due to gonorrheas of the men. Kehrer found that in 96 sterile marriages 33 per cent. were due to perimetritic exudations, 30 per cent. to azoöspermia after gonorrhea, and in 227 women Lier and Asch found 121 sterile in consequence of gonorrhea. Greenwald, Kammerer and Chroback report 53, 83 and 40 per cent. of metrides, all of gonorrheic origin causing sterility.

Ten to 20 per cent. of all blindness is due to gonorrheal infection of the new born; from 40 to 60 per cent. before the Credé method was instituted.

Prof. A. Neisser, the discoverer of the gonococcus, in a paper,[19] "Attempts to Avoid Gonorrheic Urethral In-

fection," read before the Silesian Society for Home Culture, March 15, 1895, recommends instillations into the urethra, similar to Credé's, introduced by Blokusewski to check the enormous propagation of gonorrhea. He says:

I know that such endeavors emanating from physicians will be condemned by others who are of the opinion that fear of infection might be conducive of diminishing the frequency of intercourse in young men. . . . Even he, who looks on moral influence as the main prophylactic agency against venereal diseases, must stop to think that gonorrhea is not a simple, troublesome or painful affection passing quickly, but that in many cases it proves to be the source of a severe, tedious sickness for innocence. If we could familiarize this prophylactic method with the "interested circles" surely countless infections would be nipped in the bud, countless gonorrheas could be prevented.

At the Conference for the Prophylaxis of Syphilis and Venereal Diseases, held at Brussels, September, 1899, Neisser again convincingly pleaded for the most extended use of these prophylactic instillations.

Lederman[20] says:

Great credit is due to Neisser for having recommended these measures. . . . I am ready with all my powers to work for a most extensive use of these prophylactic instillations.

Ernest R. W. Frank,[21] Berlin, in a paper read before the Sixth Congress of the German Dermatologic Society, says on this topic:

He who comes before the public with a proposition trying to prevent venereal diseases by some preventative remedy will not escape a conflict with those moralists who see a moral coercion in the fear for infection. This aim is very distant from the standpoint occupied by the physician and hygienist.

Prof. M. Zeissl,[22] Vienna, says:

Since innocents are also threatened, it is desirable to counteract energetically the spread of gonorrhea and to prevent the possibility of a man acquiring gonorrhea at all. There is no doubt that the safest and most moral means to attain this end is the avoidance of illegitimate intercourse. But this is a pium desideratum, the fulfillment of which will hardly ever come to pass. . . . It would be desirable if the method of Frank (protargol instillations) would come into general use. . . . I believe that, in view of the safety of this method, it is the duty of every physician to recommend its use.

Prof. C. Kopp,[23] Munich, says:

I would emphasize that the interested parties should make use of the prophylacticum in every instance. The measure speaks well as regards its efficacy and safety.

Prof. Th. Marschalko,[24] Klausenberg, in a paper read before the Royal Hungarian Medical Society, Budapest, January, 1901, says:

I regard the general use of prophylactic instillations as the only means to limit with success the enormous spread of gonorrhea.

Max Joseph, Berlin, in reply to an inquiry from the reader, writes thus:

Your inquiry as regards prophylaxis is, as you yourself state, difficult to answer. One thing is sure, state prophylaxis has proven very inefficient. I think we must rather rely on personal prophylaxis, which will undoubtedly be the future ideal. What can be attained by it you will find in the May number of my *Centralblatt*. I believe that no kind of state prophylaxis can show such favorable results.

Other continental authorities hold the same views. American authorities whom I have interviewed speak favorably of it and encourage individual prophylaxis in their clientele.

The article alluded to by Joseph is by Dr. R. Michels,[25] ship surgeon on a German steamer, showing the great efficacy of individual prophylaxis. On arrival in Yokohama 150 of the crew obtained leave of absence. Anticipating an expedition into the domain of Bacchus and Venere, and knowing that 5 per cent. of them usually returned infected, he gave each of them a vial of a 10 per cent. protargol-glycerin prophylactic for instillation and a square piece of unguentum hydrargyri, to be used before and after coitus. The result was surprising. Not a single case of venereal disease developed.

To return to the individual prophylaxis of gonorrhea. The idea to employ remedies to this end did occupy the minds of generations past. Decoctions of aromatic herbs, of powdered parts of animals and other bizarre quack nostrums were recommended and sold as highly-prized secret remedies. Later on acidulated water or light potash solutions were recommended with a somewhat more valid reason. Also ointing the membrum and urinating post-coitum. In 1810 Eichhord[26] recommended the injection of diluted hydrochloric acid, and Diday constructed a small syringe for that purpose. Zeissl the elder endorsed such measures, recommending first cooling the penis by a local bath before the use of the prophylactic injection.

But a scientific preventative was possible only after the curative gonococcus was found. Haussman[27] of Berlin, in 1885, recommended the injection of ten drops of a 2 per cent. solution of nitrate of silver into the urethra; but this proved to be too irritative. Ten years later Blokusewsky,[28] acting on the principle that a 2 per cent. solution of nitrate of silver destroys the gonococcus, was the first to devise a miniature medicine dropper, enclosed in a metal cap, for the instillation into the urethra post-actum of two drops of such a solution. A third drop to be applied alongside the frenulum to eventually reach the gonococci outside in the paraurethral ducts. Although very useful and endorsed by Neisser, the silver solution through its somewhat irritating effect made its general use inhibitory.

In 1897 Ullmann[29] of Vienna, to avoid the irritating silver solution, recommended a bichlorid solution of 1 to 10,000 with the addition of bicarbonate of soda. But Welander has demonstrated that this solution does not possess any gonococcidal powers.

The eminent gonococcidal properties of protargol have appealed to Ernest R. W. Frank of Berlin in his search for a substitute for the nitrate of silver solution. He has found on the strength of irrefutable experiments that a 20 per cent. protargol-glycerin solution will also destroy gonococci within five seconds. His series of experiments were not made from gonococcus cultures, but from urethra to urethra of a microscopically determined gonorrheal discharge. All individuals experimented on remained free from infection, while those not treated with the protargol prophylactic became infected with gonorrhea.

In these preventative instillations we possess almost an exact measure to stop the development of gonorrhea, when applied early enough, i. e., immediately or within an hour after coitus. It may not succeed in every case, but even so it is a formidable weapon against the spread of the disease so troublesome in its remote effects. It should be recommended as the most feasible of all remedial prophylactics. The objections of the moralist of inciting by it licentiousness can not be entertained seriously. If the profession would entertain such sophistical reasoning it would be equally as immoral to stop the hemorrhage from an uterus containing the unexpelled secundinæ in a case of malpractice, or to apply a 2 per cent. solution of nitrate of silver in a case of ophthalmogonorrhea. In Germany, where things are called by their right names without bias, these portative

little apparatuses are publicly sold and with excellent results as to their efficacy.

The student in this country is greatly handicapped when attempting to deal with the morbidity and mortality of venereal diseases by the utter absence of statistics on this topic. The board of health in the great city of New York—and I believe this to be the case through the whole Union—controls contagious diseases with great vigor and success. Hospitals for contagious diseases of all kinds are ready to receive patients at a moment's notice, but for the housing of venereal diseases we witness a dissolving-view picture of meagerness of resources unbelievable. The vital statistics of contagious diseases hardly make mention of venereal diseases. In the year 1900 the vital statistics of the city of New York record 31,145 cases of contagious diseases in all, with 11,368 deaths, among which there are only 177 from syphilis. While the late manifestations of syphilis figure under various diagnoses regardless of their etiologic factor, gonorrhea and its sequelæ are not mentioned at all as causes of death. Venereal diseases are ignored by our sanitary authorities!

I would advise that venereal diseases be made reportable like other contagious diseases. No names and addresses need be mentioned, simply the diagnosis and source of infection should be reported by the physician for purposes of registration. This would supply an excellent if only an approximate basis to ascertain the morbidity from venereal diseases, and would prove of great utility to the sanitarian. In death returns, bound to contain names and addresses, the diagnosis of syphilis would mostly remain concealed, as is the case now; the primary or remote cause of the fatal disease could not, therefore, be made available for purposes of mortuary statistics. But registration of the morbidity alone would already mark a vast progress by elevating venereal diseases to the dignity of official recognition. Out of such a condition facts could be deduced for a feasible prophylaxis.

One of the greatest factors for diminishing the deleterious consequences of venereal diseases is the prophylaxis by treatment. It endeavors to hospitalize, isolate and treat gratuitously, as is the case in the northern countries of Europe, as many sources of contagion and as near their inception as possible. To this end a generous supply of hospital and dispensary facilities are needed. I do not encourage the erection of special hospitals. Venereal patients are very sensitive on this point, and hate to be recognized by the world as the carriers of a "shameful disease." Every hospital, especially those receiving state or municipal assistance, should have a venereal ward in proportion to its bed capacity, and their charter should contain a clause to that effect. Those already in existence must, if possible, be compelled to do so. The out-door department of every hospital should have a competent venereal service. Every dispensary should be bound to have a class for venereal diseases conducted by competent specialists. Some one of the staff should understand the necessary rudiments of the different tongues which the people in such quarters speak. In order to facilitate attendance without telltale loss of time to the wage-earner, evening classes should be held. Morrow relates that 70 per cent. of those admitted to the surgical night class of the New York Hospital are venereal patients.[30]

It seems that the advertising quack derives most of his ill-gotten gain by assuring perfect privacy to this class of patients. They fear keenly, as no others do, of being afflicted with a "private disease." They are very apprehensive on this point.

Venereal departments in dispensaries should be called "department for contagious diseases," or for "external diseases." ("Ausserliche Krankheiten" in Germany.) They should have separate waiting rooms for men and women. Each patient should be examined separately, unobserved by others. In my class at the German Poliklinik I have four little compartments so arranged that patients coming and going do so unseen by each other. The utmost seriousness should prevail, no cheap jokes made—there are many sinners against this injunction—and the disheartened patient made to feel, as I try to do, that he is not before his judge, but before his helper.

Morrow[31] reports the almost incredible condition that the great city of New York provides for the reception and treatment of venereal women just 26 beds, and for venereal men 56 beds in the city hospitals at Blackwell's Island. Not one women in two thousand, certainly not one man in five thousand, can obtain treatment for the active accidents of their maladies. In Berlin there are, according to Lesser, 153 beds for men and 410 for women available. In all Germany only 7 per cent. of venereal diseases are admitted. As the largest number of venereal patients are in need of ambulatory treatment only, dispensaries with venereal service should be multiplied. Morrow reports that there are only 7 dispensaries in the city of New York in which there is a venereal or genito-urinary service; ten others contain dermatologic classes where venereal diseases are also treated. Thus it will be seen how inadequate are the dispensary facilities in the city of New York as elsewhere. I presume that the same condition, if not a worse one, prevails in all larger cities of the Union.

In addition to the improved hospital and dispensary facilities a campaign of education of the patient should be instituted. Patients should be instructed by word of mouth and by the distribution of printed slips of the details of treatment and of the dangers to themselves and others.

Some moralists might see an incentive to vice in such charitable steps; not so the physician, who is imbued in no minor degree with the ideals of purity than they are, but regards even human turpitude as not outside the scope of his samaritan efforts. It would be cruel to abandon the meritorious afflicted; it would be criminal to permit innocents to suffer. To cleanse society from venereal disease we have to treat the affected ones first.

In the foregoing I have tried to outline some feasible measures for venereal prophylaxis. As some of the recommendations are of a socio-economic character, their realization will be slow to come. Our social conditions are the outgrowth of economic conditions evolved since countless centuries; and a peaceable revolution needs yet other centuries as so many stepping stones toward amending the present social iniquities. I have studiously avoided, taking in account the present moral evolution of the race, to ventilate Utopian ideas. In voicing individual prophylaxis I was conscious of its probable moral shortcomings. But while moral sterilization may save future generations, it behooves sanitarians to be mindful of the sources of acquisition of disease, for the sake of those innocents that are exposed through marital relations, for the sake of those that are deformed and lost before birth, and for the sake of those born tainted and with the curse of spreading misery in their veins.

CONCLUSIONS.

Prostitution is the main source for venereal diseases. Its suppression during the present moral evolution of the race is impossible.

Moral regulation of vice solely is a desirable ideal, but impossible of realization.

Reglementation as practiced in continental countries is impracticable here on constitutional grounds and on the ground of its limited hygienic value.

Moral efforts (social, economic, educative and legislative) combined with sanitary measures are promising of results.

As sanitary efforts under existing circumstances can step in only after infection has already taken place, a liberal supply of hospitals and dispensaries with free treatment must be provided for purposes of treating and sterilizing sources of contagion.

Individual prophylaxis is at present the only feasible means of preventing in part the spread of venereal diseases.

It is the duty of every physician to recommend it.

The Section on Cutaneous Medicine and Surgery of the American Medical Association should strive to bring about a uniform nomenclature, and the Association should institute through this Section a propaganda of action in the different states; to bring about under its auspices a national meeting similar to the International Conference for the Prophylaxis of Venereal Diseases which meets again this year in Brussels.

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DISCUSSION.

DR. A. D. MEWBORN, New York—I would like to suggest one point in regard to the statistical duplication of venereal diseases or other diseases attributable to venereal origin, and that is that the dispensaries and hospitals should make an annual report so that the profession and public could be educated to know the extent to which those diseases exist. I think the Section should take action in adopting a uniform nomenclature, and I think the nomenclature of Bertillon would be desirable instead of X and 3X and all sorts of hidden devices which tend to make the matter secret. The hospital and dispensary reports should show the extent to which those diseases exist.

DR. C. W. ALLEN, New York—I think this is a most important subject. There has been a great deal of work done in this direction in foreign countries and some has been done here. I think the New York County Medical Society has made an honest effort to do something. I did not think when the Committee of Seven was appointed to carry out the investigation mentioned that it would amount to very much and so expressed myself. I based my opinion on efforts which had been made in the past. It takes years and years to get anything done in this particular field. The public never seems to be ready for it, never seems to be willing to act on any suggestion coming from medical men, but I think such papers as we have listened to should continue to be written, suggestions should continue to be made, and the time will come when some useful measures will be adopted toward the prophylaxis of venereal disease.

DR. E. L. COCKS, New York—Dr. Allen has struck the keynote of the situation. It has been my experience that all writers treat this disease too lightly and why they do I do not understand. It is a disease that has always existed, and always will, and if instead of looking up statistics we will appoint ourselves a committee of one, and as a general practitioner take the father in hand, and if he has not the courage of his convictions, then the son, tell him what is before him, we will accomplish a great deal toward the desired end. The prophylaxis that Dr. Weiss has presented here is all very well, but I would not put it into the hands of any man. The whole trouble has been, especially in New York, that the physicians, and more especially the ministers, periodically have a streak of over-conscientiousness and try to do something, and the result has been, so far as the other part of New York City is concerned, that prostitution, which was confined to Dr. Allen's neighborhood, viz., the tenderloin, has been scattered all over the city. Everyone knew that when a young man entered this territory he had but one object in view, and this knowledge caused many a man to hesitate, then turn back. Under the new order of things prostitutes are now our neighbors, and the above barrier to indulgence has been removed. All the legislation in the wide world will not do one particle of good, but heart-to-heart talks will. I do not know whether it is simply my experience, but it seems that the advice given by physicians in New York City when a young man has had one or more nocturnal emissions is to advise him to gratify his sexual appetite. One case I have in mind now of a young fellow only sixteen who was given that advice, and three weeks later he came to me with a chancre. What I want you to do is to appoint yourselves a committee of one and give the advice that we know ought to be given, either to the parents or to the young men themselves, and by so doing I think we can to some extent eradicate the evil. Where there is a demand for sexual intercourse it will be met,

and if by our advice we can cut down the demand the supply will diminish.

DR. W. S. GOTTHEIL, New York—I am sure that we are all very much obliged to Dr. Weiss for presenting this subject. The venereal portion of our dermatologic "disciplin," as the Germans would say, has been rather neglected in the past; and I assume that we are all desirous to limit the spread of venereal disease, and must therefore agree in the main with most of what the writer has said. We must not forget, however, that we always have had, always will have, and always must have prostitution in one form or another; and that, whatever the moralists may tell us, history and common sense show it to be a social necessity. It is a mistake to regard the prostitute as a criminal, and to adopt exceptional measures against her as such. Her calling is socially undesirable, and would have no place in an ideal society. But the same can be said of gambling, which in many places is regarded as a legitimate occupation; and there are entirely proper business occupations that can only with difficulty be differentiated from gambling. I am firmly of the opinion that the English method of dealing with the social evil is the proper one, and that municipal regulation, as practiced in many European cities, is neither successful nor desirable. It must be tolerated like many other necessary evils, and should be interfered with only when police reasons for such a course exist. I am in accord with Dr. Weiss as to individual prophylaxis, but that is a matter that lies with the patient and his physician.

DR. F. H. MONTGOMERY, Chicago—We must all, even those of us most strongly opposed to some of the measures advocated in this paper, recognize the courage—evidently born of conviction—and the great care with which Dr. Weiss has presented this subject. His suggestions regarding the regulation of tenement houses, stores and factories are exceedingly valuable and important. Few who have not studied the situation realize to what extent in some of our large cities the reputable poor of all ages are compelled to associate, not only in their work, but also in their homes, with those who make crime and sin their means of livelihood.

The measures of individual prophylaxis recommended by Dr. Weiss should be unqualifiedly condemned. They are wholly wrong in principle and opposed to the progress we wish to make along educational lines; and, moreover, I believe their use would lead eventually to an increase rather than a diminution of venereal disease. The average man who exposes himself to venereal disease is going to exercise much less self-control and expose himself much more frequently if he thinks he is armed with a means of protecting himself. That the protection afforded by these measures is not complete, but only partial and more or less uncertain, must be admitted by their most ardent advocates.

I agree fully with one of the previous speakers in believing that the prevention of venereal diseases must be accomplished very largely through the proper education of the young. It is a sad fact that practicing physicians are found not infrequently who have never been educated properly along these lines, and whose advice to young men is often pernicious if not criminal.

DR. H. G. ANTHONY, Chicago—I think one of the ways to solve this problem is through education. Young boys I find have ideas in regard to venereal diseases and the sexual organs, which they obtain from comrades and coachmen; it is far better to have them listen to intelligent lectures in universities and colleges and let them get an intelligent idea of venereal diseases, their dangers and the difficulty of prophylaxis. In this way I think a great deal can be accomplished to limit the spread of venereal diseases. Another thing of great importance, when a man has once contracted gonorrhea he thinks when the discharge ceases he is entirely well, while we know that for a long time the gonococcus is contained in the urethra and is a source of infection, and that should be pointed out by the physician and the danger of infection of women while the gonococcus is present. I think these antiseptic measures are harmful. When a physician places such things in the hands of a young man he thinks he is safe when he is not. You can not prevent the contagion of syphilis by any such means as these antiseptic solutions. Just as soon as the syphilitic virus touches a surface we know that infection takes place. Neither do I believe that any of these various means will prevent gonorrhea. I think if the gonococcus is present in the vagina of the woman and comes in contact with the mucous surface these antiseptic means are not sufficient to prevent contagion.

DR. DAVID LIEBERTHAL, Chicago—Four years ago I wrote a paper on this subject, and I find myself in general agreement with the views of Dr. Weiss. The statistics quoted seem to be plausible, although they may be unreliable, as are a good many other statistics. It seems at least probable that a far larger percentage of infections originates from other sources than from prostitutes. The suggestions offered by Dr. Weiss are to the point, although some can not easily be carried out. Especially the question of educating the young in this direction is very well worth considering, even admitting that religious objections might frequently prevent it. I recollect a conversation with a gentleman leading up to this topic, who said he would not permit anybody to mention such a subject to his boy, and this boy was 21, and there are thousands of people similarly disposed. What seems to be of greater importance is the necessity of well-equipped institutions for the treatment of venereal diseases. A sufficient and competent staff should be employed and well remunerated in order to be able to afford time to properly care for these cases. The funds for such hospitals and dispensaries should be provided by the state. I listened with great interest to this paper, and believe that more papers on the subject should be written.

DR. H. W. STELWAGON, Philadelphia—I feel as several speakers have expressed themselves, that we will never make headway in the control of venereal diseases by legalizing prostitution or by recognizing it as a legitimate calling. I protest strongly against such an expression. We must cease to look on gonorrhea or syphilis as a joke, which is done over and over again by laymen and physicians. The young man must be plainly advised in his college days as to the dangers of such maladies, not only the serious consequences but the moral degradation resulting. I am sure if colleges would take this in hand at the beginning of each session and the students be talked to plainly, seriously and in good earnest, it would limit the contraction of such diseases very materially. They should be made to understand that such diseases are not only dangerous to themselves, but to others, and to their children. I have no sympathy with anything looking to the legalization of prostitution; I have no sympathy with the expression regarding it as a legitimate calling. We are not here to condone any crime; we ought to stand up against crime every time.

In regard to statistics: we all know that statistics are wrong. We have heard a great deal about the number of patients calling at dispensaries, hospitals, etc., but we all know that one patient frequently goes to four or five dispensaries. I have seen the same patient at three dispensaries. At my dispensary services we put one patient down as two patients if he has two diseases. If, for example, he has eczema and acne we put him down as two patients, in order that proper records of both diseases can be kept. The number of people applying to dispensaries is not so large as some would suppose.

DR. R. R. CAMPBELL, Chicago—I think Dr. Montgomery has sounded the keynote of prophylaxis of venereal diseases. In connection with education the first step is to educate the physician, and I do not hesitate to say that 85 per cent. of the profession who treat gonorrhea do not know when gonorrhea has been cured. They still follow the old idea that when the discharge ceases the disease is cured. They do not realize that having gotten the patient over his uncomfortable symptoms they are just reaching that point when it becomes hard for the attending physician to relieve him of the more serious condition resulting from an attack of gonorrhea. The gonococci can lie dormant for years and then be readily excited into activity. One case in the practice of Dr. R. W. Taylor that had laid dormant for 28 years, then became active. The same applies to syphilis. It is a matter of education. In the first place the education should begin with the medical student. The genito-urinary and dermatologic work of undergraduates in

colleges is considered of secondary importance, and as a consequence the student feels at perfect liberty to cut the clinics or cut the lectures that pertain to venereal diseases and dermatology, for he thoroughly appreciates that he does not have to pass an examination in these branches. If we could only make the members of faculties in our colleges realize this important point, to require an examination in those different branches as well as in others, we could then begin our education at the right point. To try to educate men who have gone into the country and are dependent for their further education on post-graduate work we will never make any progress toward venereal prophylaxis.

DR. WEISS—I wish I had the eloquence of a Demosthenes so that I might answer properly all these questions. I think I have sounded a note of warning about a dozen times, if not more, that if we expect to hasten the coming of the millenium and with it the moral evolution of the race, we will have to do something. I have emphasized the fact that social economic laws should be enacted in every state to diminish vice and the spread of venereal diseases. It is for the first time that individual prophylaxis is brought before an American medical audience, and I do so with a sense of reluctance. I need not defend my standpoint, as individual prophylaxis will in no way encourage profligacy or licentiousness, and I would like to call it out with a voice that could be heard all over; that we must drop this mysterious prudish standpoint of ours *because* we are on the side of morality; and at the same time we should quickly recognize the fact that things need a quicker remedy, a more tangible one than moral persuasion only. The physician should look on personal prophylaxis as a legitimate field of his interference without the least hesitation, as do continental authorities. I am sure to voice the sentiments of those assembled here when I emphasize the fact that physicians never neglect to admonish, to advise, to reprove, to blame, yea, even to chide their clients for indiscretions committed. They inculcate the necessity of chastity in the half-matured young man; they prevail on the eager candidate to postpone marriage until cured, and warn the erring young woman of her evil ways, urging her to amend. A profession that deals with the otherwise remunerative effects of sin so unselfishly and against its own material interest, surely can not be charged with promoting profligacy by holding sanitary measures paramount—to say the least—to moral regulation of vice. A profession that can not be outdistanced by any other regarding charity, devotion and purity of conception, need not, I am sure, be afraid to unfurl its flag of preventive measures to minimize what it could not avoid.

RESOLUTIONS ADOPTED.

After discussing Dr. Weiss' paper, the Section adopted the following preamble and resolution:

WHEREAS, There is a burning necessity to check the spread of venereal diseases, and assuming that the states can not with impunity ignore the condition, it lies in the province of the medical profession the task of recommending to the respective state legislatures and municipalities means, not reglementative, but social, economic, educative and sanitary in their character, to diminish the danger from venereal diseases;

Resolved, That the Section on Cutaneous Medicine and Surgery of the American Medical Association invites the Section on Hygiene and Sanitary Science to co-operate with the Section on Cutaneous Medicine and Surgery to bring about a propaganda in the different states looking toward the proper recognition of the dangers from venereal diseases, and to arrange for a national meeting under the auspices of the American Medical Association for the prophylaxis of venereal diseases similar to the International Conference for the Prophylaxis of Venereal Diseases which meets again this year under the authority of the Belgian government at Brussels.

HENRY W. STELWAGON, *Chairman*.

This was later submitted to the House of Delegates, which endorsed the action of the Section and adopted the following:

Resolved, That a joint committee of six from the Sections on Hygiene and Sanitary Science and Cutaneous Medicine and Surgery be appointed by the President to stimulate study in and uniform knowledge of the subject of the prophylaxis of venereal diseases, and to present to the American Medical Association a plan for a national meeting similar to the International Conference for the Prophylaxis of Venereal Diseases, which meets again this year in Brussels under the auspices of the Government of Belgium.

The Committee on Prophylaxis of Venereal Diseases consists of the following: Drs. Henry D. Holton, Brattleboro, Vt., chairman; George M. Kober, Washington, D. C.; W. H. Sanders, Mobile, Ala.; Ludwig Weiss, New York, secretary; L. D. Bulkley, New York, and Frank H. Montgomery, Chicago.

DETERMINATE FACTORS IN THE CAUSE OF INSANITY.*

EUGENE G. CARPENTER, M.D.†
COLUMBUS, OHIO.

It is questionable if there is any problem which has occupied the thought of medical men so diligently as that of the etiology of disease. It is one of the fundamental principles of our cult to determine the cause by the employment of every possible known means of diagnosis before applying our therapeutics or means of cure. A half century of time has been lost in the effort of medicine to make the etiology of general disease apply to or explain the clinical appearances as found in the insane condition. (I speak of insanity thus, for it is but an evidence of an abnormal brain state.) After a decade's experience the thought has constantly forced itself upon the writer that, in our endeavor to explain cause, too great stress has been placed on some so-called causes and too little on others. If the ordinary principles of etiology applied to the symptoms as found, then by ordinary knowledge of these principles we should be able to recognize the real status of the condition, and the usual remedial means employed should bring the usual results. But experience has taught us that this does not obtain, for to this time we have much to learn of etiology, and the employment of our best known treatment has resulted in the betterment of but 33 to 40 per cent. Out of this number 70 per cent. will recur, 20 per cent. will die before the opportunity for recurrence arrives, and 1 per cent. will possibly remain permanently well. These figures hold no comparison with the treatment of disease in general.

HEREDITY AS A CAUSAL BASIS.

In recent years it has been found by close detailed examination of the insane that many stigmata can be found pointing to predisposing cause as a primary factor, and as containing an explanation of the instability of those successfully reinstated in their normal state. In reviewing the statistical tables contained in the official reports of the hospitals for the insane, the proportion of cases credited to hereditary influences varies from 25 to 90 per cent., the average of all countries being about 60 per cent. Mercier says: "The tendency of late years has been to lay increasing emphasis on the hereditary factor in the production of insanity, but it is doubtful whether even yet the true bearing and significance of this factor has been recognized."

In a special examination of one thousand cases by the writer, made with particular reference to the stigmata of degeneration, it was found that at least 75 per cent. exhibited various signs of anatomic defects. Other investigators have placed them as high as 90 per cent. This finds a responsive remark by Berkley, who states in his "Mental Diseases," in speaking of the hereditary predisposition, that "This tendency, although it may sometimes be acquired, is much more frequently born with the individual, so that in the majority of the mentally afflicted we find directly inherited predisposition to insanity." Granting this basal factor to exist in this ratio in the etiology of all those who actually fall a victim to this disease, it does not argue that one so predisposed of necessity must ultimately become insane. Is it not our common knowledge that all persons predisposed to the development of tubercle bacilli within

* Read at the Fifty-third Annual Meeting of the American Medical Association, in the Section on Nervous and Mental Diseases, and approved for publication by the Executive Committee: Drs. Frederick Peterson, Richard Dewey and H. A. Tomlinson.

† The author of this paper died Oct. 19, 1902. See THE JOURNAL, xxxix, p. 1125.

their organism may escape through a lifetime, if not exposed to the conditions favorable to its propagation? Therefore, we are justified in holding that notwithstanding one be under the "tyranny of organization," there are after all determining etiologic factors, if exposed to which, certain psychopathologic conditions are sure to become established.

It is intended in this paper to call attention to what I take occasion to call *determinate causal factors.* Mercier declares "The causation of insanity may be summed up in two words, "heredity' and 'strain.'" The former is responsible for instability of the nervous system, while in the latter the causes are multiform in character, comprising all sorts of stresses, physical and mental, direct and indirect, having to do with antecedent influences and environmental conditions; in brief, all those factors which attack the integral organic structure upon which normal mentation is dependent and tend to undermine the nervous constitution, lessen its resistance, cause a reduction in its potentiality, and thus bring about a mental collapse.

ALCOHOL AND DRUGS.

Among these stress causes are found the determinate factors already alluded to and to which I wish to call your special attention. At the head of the list must be placed alcohol and drugs. All authentic observers have yielded the palm to alcohol as ranking next to heredity in cause. Clouston credits it with 25 per cent. of all insanity; Peterson from 18 to 20 per cent. in males; Berkley, more conservative, with 10 to 30 per cent.; Kræpelin 10 to 30 per cent. in Germany; the British Lunacy Commission gives 22 per cent. in males and 9.1 per cent. in females. The writer's observation has shown it to have 12 per cent. of the annual admissions. This is a cause upon which we can place our finger. We know it to be toxic in its effects upon the human organization, and the pathologic changes it brings about in the various tissues of the body are well known. We see them in evidence upon the autopsy table, and what we can not see with the naked eye there we can see under the searching glance of the microscope. There is no chance for guess or cavil there. The misuse of alcohol is one of the preventable causes, and yet it contributes 12 to 20 per cent. of the inmates of our asylums. Not only that, but the law of heredity is ever providing communities with dependent clientele for the future through a progeny, the result of the participation of the alcohol misuser and inebriate in the marital relation. This legacy in the way of defectives propagated by the alcohol habitué is distributed generously as well among the feeble-minded, the correctional schools and the penal institutions. From this estimate of the extent it is figuring at present in the production of the degenerate classes, alcohol is one of the greatest factors menacing the perpetuity of the American race.

SYPHILIS.

While syphilis figures largely in the etiology of disease in general, amounting to two-thirds of those treated in some of our large city hospitals, it is difficult to estimate how important a rôle it plays as a causal factor in mental disease. It takes up its position in all regions of the brain, and its morbid process may take on different degrees of extension, and at the same time, with a few exceptions, there is no characteristic of its presence, this frequently depending upon its intensity and its position in the organ. Hughlings Jackson has shown syphilis of the nervous system to be a misnomer, and proved that the poison never attacks the nerve tissue proper at all, but only neuroglia, fibrous tissue, blood vessels, lymphatics, membranes or bony covering involving nerve tissue and its functions generally. In the Royal Edinburgh Asylum out of 3,145 cases there were found 16, or 1-6 per cent., of cases of syphilitic insanity. This small ratio might obtain in an aggregation from a Scottish district, but I believe 1 per cent. would not be placing it too high for the hospitals of the continent and of the United States. I take it that this small percentage has reference to those cases of insanity occurring in the secondary stages of the disease, and which in reality are rarely found in the wards of the hospitals for the insane. To paretic dementia, essentially a syphilitic brain disease, may be accredited about 5 per cent. of the insane population. The prevalence of antecedent syphilis in this disease has been stated differently by different observers. Magnan placed it at 4 per cent.; Siemerling at 11 per cent.; Kræpelin at 90 per cent.; Westphal at 40 per cent. in women; Binswanger at 50 per cent. to 69 per cent.; Erb at 52 per cent.; Mendell at 75 per cent.; Connolly Norman at 80 per cent.; Savage at 80 per cent. Dr. Stoddart in the July, 1901, number of the *Journal of Mental Science*, thinks 75 to 90 per cent. represents more closely the facts, and concludes, "that syphilis is so frequent an antecedent of paretic dementia that the non-syphilitic cases, if such exist, may for the present be regarded as a negligible quantity and that hardly anybody runs the risk of acquiring the disease who has not had syphilis." Crediting 4 per cent. to organic changes due to luetic arteritis, meningo-encephalitis, syphilomatous deposit and inflammations in membranes, bones, etc., a conservative estimate of insanity due to syphilis would be 8 to 10 per cent. Thus is recorded a second prevalent, preventable, determinate cause of insanity.

CEREBRAL TRAUMA.

Injuries to the head seem to hold a prominent place in the profession as an etiologic factor in insanity. Were this true as often as alleged, great weight would need to be given to it in the consideration of causes. In an inquiry as to the frequency with which injury causes entered into insanity two years ago, I found it greatly overestimated. Among those who had gathered data on the traumatic cause of insanity were Kiernan, who had found 45 cases among 2,200 patients; Hay 60 cases in 2,500; Starr regards 2 per cent. as a fair estimate; Clouston 1-3 of 1 per cent.; Krafft-Ebing found 1 per cent. in 462 cases. Out of 1,400 cases the writer found 10 cases, or .7 per cent. The consensus of opinion in regard to traumatic insanity, so-called, is that it may, and does, operate as a determinate cause in a small number of cases, ranging from .3 to 2 per cent.; that it follows an injury to the cranium where superimposed upon an alcoholic basis, or positive neuropathic predisposition.

TUBERCULOSIS.

Tuberculosis is found to be more prevalent among the insane than the sane. As long ago as 1863 Clouston, after making a close investigation of this subject, in a large number of cases, described a symptom complex as especially characteristic of what he calls phthisical insanity. This author ascribes a ratio of at least 2.7 per cent. of the admissions to Morningside to this cause on account of the uniform array of mental and bodily symptoms.

Comparing the symptoms of this class of patients with his picture of it as a special form, there does seem to exist a justification for his opinion. When con-

fronted with the fact that insanity is rarely found in hospitals for the tubercular, he argues that the mental symptoms appear long before the disease has advanced to any great degree, and the patients are committed to asylums instead of the special hospitals for the treatment of that disease. He insists that the physical conditions of brain anemia, viz., malnutrition, cachexia, blood poisoning, insufficiency of blood, which are always present antedating the appearance of the tuberculosis, are the cause of the early physical phenomena in some cases. The data gathered by myself tends to substantiate the position of this authority, for from the findings of 51 autopsies there were found five cases in which the cause of death was not tuberculosis, although active tubercular lesions were found. In seven cases there were no tubercular lesions in the lungs, but the bronchial lymph glands were either actively tubercular or contained evidence of old lesions. That 37 examinations of sputum revealed germs in 35 per cent. of the cases examined. That tuberculosis was the cause of death in 27.7 per cent. of the females, while 10.6 per cent. of the males died from this cause. Total deaths from tuberculosis being 12.26 per cent. From these proofs of its great prevalence among the insane, and that it is a positive entity in type, there is certainly reason in regarding it as a decisive etiologic factor.

PROGRESSIVE DEGENERATION.

There are individuals in whom the die of degeneracy has been cast in the first hours of the cellular arrangements of the ecto, meso and hypoplastic layers of their embryonic existence. From the very necessity of this fact beings are projected into life, anatomically, physically and psychically atypical and at certain crises of their lives indicate by their mental collapse that the wheels of evolution have been reversed and dissolution has been inaugurated. I refer to the insanity of pubescence, adolescence, paranoia and senility. The first three are forms of the so-called developmental insanities. In these persons a normal evolution of the body and brain apparently progress to a point where suddenly all the inherent potentialities seem to have become exhausted as evidenced by marked mental reduction. Not infrequently do these cases manifest unusual brilliancy in their earlier years of pubescence and adolescence, only to make the difference more striking when their hopeless dementia follows. Here, if sufficiently probed, antecedent history would throw a flood of light upon cause, and the frequently alleged vagary, masturbation or some other assigned cause equally incorrect, would not need to be so conveniently produced.

Senile insanity for the most part is expressive of terminal dissolution of the brain tissues. The atheromatous arteries, the atrophied convolutions, indicative of nutritional changes, call for little logic to explain diminished mentality of the aged, common physical signs of which are their restlessness, depression, dizziness and insomnia, accompanied by a corresponding loss of memory, inappreciation of time and place, while their thoughts and acts have reference only to things long past.

TOXEMIA.

Not a little literature has been offered of late years in reference to toxemia, dependent on external and internal causes. To such external causes as alcohol, morphin and cocain, already alluded to, may be added lead and mercury, each of which, in addition to the usual physical manifestations, also takes on an array of somewhat characteristic mental symptoms. Others to be mentioned are coal gas, carbonic acid and bisulphid of carbon. In Egypt hashish is a common cause of insanity. We can not note tobacco to be an active causal factor, although one case came under my observation in which there was a nicotin amaurosis that appeared to be positively caused by the excessive use of this narcotic. Emphasis has been given auto-intoxication as an etiologic factor, not only of disease in general, but also as a specific factor in morbid mental states, and has been rather warmly received by the profession. In support of this theory, conditions and symptoms have been referred by some investigators to the presence in excess of lithates, ptomains, xanthin, para-xanthin, uric acid and other chemical poisons. As a result of the absence of hydrochloric acid and other normal digestants in the stomach through faulty metabolism, fermentation and other abnormal processes takes place in which a series of chemical poisons develop. Wagner and Jaksch have attributed certain types of mental disease to certain nerve poisonous substances in the urine, viz., acetone, diacetic acid and oxybutyric acids.

The decomposition of albumin by the influence of bacteria in the intestines has been found by the physiochemist to result in the formation of such putrefactive products as indican, indoxyl, potassium sulphate, skatol or skatoxyl-potassium sulphate. These elements, it is claimed, are found in large quantities in the obstructive intestinal conditions.

Notwithstanding the vagueness and incomprehensiveness of the data at hand on the subject of auto-intoxication, and that the wise are asking "what is it" when it is mentioned, every practical medical man feels he sees enough clinically to justify him in the conviction of the truth of this theory, and the results of the investigations to date that it plays an important rôle in the cause of this disease. Apropos to this, the prominence given by some authors to rheumatic, choreic, diabetic, podagrous, puerperal and lactational insanities as special forms, is suggestive that all these might be indicated under auto-toxic types if our advancement in chemical pathology would allow it. In this branch of our medical knowledge is our future hope, and when that shall have been developed, no doubt toxemia and auto-intoxication shall have taken a prominent place in the list of determinate causes of insanity.

KIDNEY LESIONS.

From the fact that so large a percentage of our cases yielded positive pathologic nephritic conditions of various kinds, we are forced to the position that there is some connection between kidney disease and insanity. Both the cause of the disease and the mode of death are in keeping with this view. Again, chemical and histologic findings lend a strong color to this position. Of the 422 specimens examined the past year in our laboratory, 36 per cent. contained albumin, 11.6 per cent. contained casts, 20 per cent. contained hyalin and granular casts without albumin. Sugar was found in three cases. Fifty per cent. of the kidneys showed interstitial increase, 18 per cent. showed parenchymatous changes, 64.6 per cent. exhibited some kind of kidney impairment.

ACUTE INFECTIONS.

Infectious diseases, as typhoid fever, pneumonia, influenza and malaria, should be reckoned as decisive causal factors. In the acute psychoses changes in the vascular system and the effect of the toxins upon the nervous centers act as positive exciting causes. Not infrequently are these cases admitted to an asylum during a period of temporary delirium, after which the dis-

case runs its usual course without any particular mental disturbance.

NERVOUS EXHAUSTION.

The investigations of Hodge, Mann and others have proved that positive changes take place in the nerve cells as a result of excessive exercise and fatigue as compared with rested cells. These proofs lead to the strong probability that like changes take place under the stress of such physical causes as mental overwork, overstudy, insomnia and others kindred to these, which induce nervous exhaustion. Again, the lowest point of exhaustion may be overreached, so to speak, and absolute cell degeneration follow, placing what was a remedial condition outside the pale of restitution. Moral causes appear to act in a majority of instances as direct causes of alienation, but the histologic evidences are that a pathologic basis is always established previous to its manifestation. While the moral features of a case of insanity frequently attract the attention, and are very alluring in the consideration of causes, they should not be permitted to overshadow all others as is frequently the case. In the light of the advancement of the psychiatry of to-day it is not sufficient to explain the circumstances of a mind diseased by assigning "grief," "domestic trouble," "religious excitement," "love affairs," etc., as the probable determining etiologic factor. Much of this sounds legendary, and should be allowed to pass by with the ancient myth of the moon.

DISCUSSION.

DR. J. H. MCBRIDE, Los Angeles, Cal.—The Doctor's statement that Hughlings-Jackson has said that the nerve cell is not directly attacked by the virus of syphilis is not quite correct, in that Dr. F. W. Mott was the first to make this generalization. Dr. Mott says that the syphilitic virus never attacks the nerve cell, but that it attacks the mesoblastic tissues only, namely, the blood vessels, lymphatics and neuroglia.

In regard to tubercular insanity: there is some merit, I suppose, in an etiologic classification, but I can not believe that the type of insanity described by Clouston in 1876 as tubercular insanity is really a distinct form. I should be glad to hear from Drs. Tomlinson and Dewey on this point. As a curiosity in this connection I have observed three cases of epilepsy during the past year in which the fits were associated with incipient pulmonary tuberculosis. Bright's disease is, of course, associated with insanity and bears doubtless an etiologic relation to it. Dr. Alice Bennett first called attention to it and Dr. Tomlinson has, I believe, written on the same subject.

DR. H. A. TOMLINSON, St. Peter, Minn.—Ten years ago, in a paper read before the American Neurological Association, I made the statement that I did not believe all of the influence of heredity was included in the direct transmission of any particular form of disease from parent to child; and I laid particular emphasis on this contention in connection with insanity. Since then I have continued my observations in this direction, and have taken special pains to verify the family history in every case coming under my care. It is my belief that no one ever becomes insane who is not primarily either unstable or defective; and that any constitutional condition present in the parents, which may have lessened their vitality, may bequeath to their offspring an unstable nervous system; while defect is particularly apt to be present in the children of the alcoholic, syphilitic and consumptive. It is probable also that the reason the nervous system is most affected is on account of the natural tendency of degeneration to begin first in those parts of the organism which are last in the order of development and most complex in their structure. I have observed further that the children of the insane are usually unstable, and that tuberculosis is more common among them than is insanity; while the primarily defective individuals have behind them a history of syphilis, alcoholism or tuberculosis; and singularly enough, not uncommonly cancer. The children of the insane suffer from the simpler psychoses and the recurrent forms of insanity, with entire absence of, or very slowly developing, mental reduction. Comparatively few of the children of the insane become insane, but a great many of them die of tuberculosis. It is equally common for the children of the tuberculous to become insane. In the hospital at St. Peter we have a great many cases of tuberculosis develop among our patients, but the subjects of the disease are not the children of the tuberculous, but of the insane and neurotic, thus showing a tendency to transmutation between two generations. I have never found anything in my experience to warrant the conclusion that tuberculosis is ever a direct cause of insanity. On the contrary, during the past ten years we have had only five people committed to the hospital who were suffering from tuberculosis at the time of the onset of the mental disturbance.

I was interested in what Dr. Carpenter said about injuries to the head. Every one who has had much experience among the insane knows that they have no significance in a causative sense with relation to insanity. Very few children grow up without having had some injury to the head, and severe traumatism is not uncommon; but how few of those injured ever become insane. These head injuries are given as the cause of the insanity because the relatives do not wish to admit, even to themselves, that they have an unstable or defective member of the family. I have occasionally, in my postmortem work, found evidence of cranial injury, but no degenerative change in the cortex beneath. There was, however, marked degenerative change in the cortical area covering the insula. This is the point where degenerative change begins, because it is the place where development ends, the area of the most complex functional activity in the cortex. Just why the blood vessels in this region should be the first to undergo degenerative change I do not know, but it is a fact in my experience that the middle and anterior cerebral arteries are the first to show evidence of atheroma—just as atrophy of the frontal lobes anterior to the precentral fissure is always in proportion to the degree of mental reduction present.

DR. RICHARD DEWEY, Wauwatosa, Wis.—The question that Dr. McBride asked as to whether there was a special form of psychosis developed as a result of tubercular disease is one of especial interest. It is my view from what experience I have had in this direction that there is not a characteristic tubercular insanity. It may be said that there is a melancholia that is very typical and very uniform among patients who have an active tubercular process going on in the lungs, and there are many cases which are strikingly similar in their development, in very many of which it would seem that the tuberculosis was a sequel to the insanity and the melancholia, and that the existence of the depression and stupor and inactivity of the body established a cessation of the ordinary exercise of the respiratory muscles, and that the change of the blood in the lungs and lack of aëration of the blood, led to the development of tubercular disease, which probably previously existed in the germ, but I do not myself believe that there is a special form of tubercular insanity. The general questions of causation, it seems to me, tend to resolve themselves more and more into larger and broader categories in which subordinate variations can be grouped, and there seems to be much truth in the remark which Dr. Carpenter quoted from Mercier, that heredity and stress were the two factors. Of course, we are still very much in the dark as to what is meant by heredity and there is still very much to be learned in this connection about the embryologic states, and the very much greater activity which is at present evident in the study of the brain changes, in the embryo, and in the ingrowing subject and in the adult, will lead to more definite knowledge than we at present possess as to what it is that is transmitted. We are much in the dark in this connection and do not know anything except that a certain tendency is transmitted, but what is the physical basis or structure on which it depends is something that remains to be sought out. Heredity means practically everything included within the individual's vital processes, physically and psychically, and strain refers to environment. Thus, if you take two individuals exactly alike, and subject one of them to prolonged and severe stress, and the other escapes it, one of them will

become insane and the other will not, though each may be of neurotic or insane diathesis, and probably none become insane who have not this defect. I think that the laws that are laid down in this matter are very instructive and will serve as a guide to much more accurate and broader views than we have heretofore been able to formulate.

DR. H. H. HOPPE, Cincinnati—A few years ago a friend who was studying nervous and mental diseases in Vienna returned and told me that Krafft-Ebing was so imbued with the idea that syphilis was the cause of paresis that he inoculated a series of 60 cases of paresis up to that time with the virus taken from fresh syphilitic chancres. Not one of these 60 cases of paresis developed syphilis. This tended to prove that they had all previously had the disease. I would like to ask Dr. Carpenter whether or not the results of this series of experiments have been made public.

DR. J. T. SEARCY, Tuscaloosa, Ala.—In the matter of heredity as an important factor in insanity, I would like to make the following suggestion: It is an established biologic principle that in those organs and structures in which hereditary variation is going on, most instability of structure is found. This is abundantly illustrated in domesticated plants and animals. While hereditary variability has improvement as its object, in the way of improved adjustability to a changed environment, still the very morphologic changes that are made are new structures, and consequently there is instability. Newness of structure means, in a certain sense, weakness; so that while variation is meant for improvement, it at the same time is a frequent cause of weakness. In degenerating individuals and families in the biologic world, we find frequent defects, abnormalities, and aberrances as well as more liability to disease in their newly varied acquisitions. Improvement of function comes by way of variation of structure; still, variation, in those families that do not continue the same efforts that beget the improvement, may be a source of ready deterioration. In our present-day civilization and for several hundred years, there has arisen much changed and excessive exercise of the cortical brain; very different from what was the case when we were rude savages roaming over the plains of Europe, when muscularity rather than brain-ability was our most prominent accomplishment. The requirements for brain-work have been for a long time increasingly a necessity that is very exacting. All of our early life is now taken up in study, and our adult life is strenuously occupied in brain-work. The result is, hereditary cortical variation in the way of improvement. But, following the general biologic rule, the newly varied brain structures fail readily, particularly in those individuals or families that do not keep up the same ancestral improving exercises. There are, therefore, nowadays, in brain structures and capabilities seen frequent signs of deterioration, of degeneracy, of defectiveness, and of disease. The increase of modern insanities, in this way, has hereditary cortical variation as one cause—if not its principal cause. The eyes, in conjunction with the cortical brain, are organs that are much worked in new ways in our modern civilization. We have largely changed from far-vision to near-vision in the uses to which we subject them with most strain and effort. Consequently we find them varying and their instability of structure occasions frequent abnormalities, asymmetries and tendencies to disease. The cortical-brain is varying, and so are its windows, the eyes; and we see increasing exhibitions of the defective instability of both in our most civilized communities. In this way, as Dr. Tomlinson quoted, "where evolution ends, insanity begins"; because when and where improving variation of structure stops, deteriorating and defective variation sets in.

DR. CARPENTER—In the first place, I do not know that Dr. McBride understood my paper exactly. What I meant to say was that syphilis did not attack the nerve cell or the neuron, but that it did attack the approximate tissue; the blood vessels, the connective tissue and the fibrous tissue; and that the damage to the nerve tissue was secondary. If it is proven that the nerve cell is attacked by the syphilitic virus, that is something more recent than has come to my knowledge.

In regard to tuberculosis and insanity, I think it should be kept in mind that tuberculosis is a destroyer of nutrition and in that way may do much damage to the system as a whole, in which the brain may participate especially, and in due time manifest itself in insanity by presenting a special picture. In the paper you may have noticed that a large number of the deaths were proven by the postmortems to be due to tuberculosis. I wish to remind you that these autopsies were not of cases recently admitted to the hospital. We should always keep in mind the fact that a large ratio contract the disease while in the institution. I think if there is anything characteristic of this form of the disease it is the depression of which Dr. Dewey spoke, and which I think is characteristic in all diseases due to infection, as is usually noted in typhoid fever, and in la grippe particularly. I would regard tuberculosis as a determinate factor in insanity much as I would regard bad hygiene and bad hygienic surroundings, poor food, and similar factors which tend to have a devitalizing effect on the constitution of the individual.

I understood my worthy colleague, Dr. Tomlinson, to make the statement that he believed all insane people to be possessed of a hereditary predisposition. It is my conviction, on the other hand, that there is a certain small percentage of cases of insanity due to infectious disease, and toxic conditions in which heredity play little or no rôle; that is, that infection may be the direct cause of insanity where there is no predisposition. We know that a small percentage of the cases of acute mania do recover and remain permanently cured. Berkley speaks of 4 per cent. that had remained permanently well after ten years. I believe that a small percentage of the cases of acute mania and acute melancholia do recover and remain perfectly well, and I believe these are the cases which are due solely to the infection without the element of predisposition entering into them. In regard to the most vulnerable point in the brain, I believe it is the district to which the cerebral artery distributes its branches. It is an accepted principle, as my colleague has intimated, that "dissolution begins where evolution leaves off," but it seems to me that it should be remembered that those parts of the body which are the most abundantly supplied by blood, and which contain the largest number of blood vessels, are the most frequently attacked by the neoplasms or degenerative processes, and it occurs to me that in these cases of insanity from infection the flood-tide of the blood is in the cerebral artery through whose branches infections and toxins are most probably carried. Hence the region most likely to be affected by the degenerative processes is the district supplied by the cerebral artery and its branches.

In regard to Krafft-Ebing and his syphilitic tests in paresis: from such information as I have been able to glean, I believe none of these cases that were tested showed any manifestation of the primary or the secondary symptoms of specific disease.

PRELIMINARY NOTE ON AN EXPERIMENTAL RESEARCH INTO THE MEANS OF CONTROLLING THE BLOOD PRESSURE.

GEORGE W. CRILE, M.D.
CLEVELAND, OHIO.

When the vasomotor center is exhausted stimulants such as strychnin are either valueless or harmful, because if the center is wholly exhausted it can have no effect, and if partially exhausted the stimulation will be followed by a deeper depression. Shock may be as readily induced by vasomotor stimulants as by injuries or operations; the former belong to the class of internal stimulants, the latter to that of external stimulants. Neither can be employed with advantage in the treatment of a shock produced by the other. Alcohol should be classed as a depressant. Nitroglycerin is of advantage only in certain diseases of the arteries. In digitalis the vasomotor factor in its effect is objectionable on the same grounds as that of strychnin. As to the cardiac factor in the action of digitalis, an increase in the heart's action, *per se*, has but a limited effect on the blood pressure in normal cases, but when the peripheral

resistance is lost, an increase in the heart's action has practically no effect on the blood pressure.

Normal saline solution is not in any considerable quantity retained in the blood vessels. When approximately 320 c.c. per kilo has been given, it causes death by asphyxia, due to the accumulation of the solution in the splanchnic area, mechanically fixing the diaphragm and the ribs.

Uniform mechanical pressure on the limbs and trunk by means of a pneumatic rubber suit gives a definite control of the blood pressure of from 25 to 40 mm. There are no unfavorable side effects. By this means patients may be placed in any posture during operations, because the pneumatic pressure creates an artificial peripheral resistance, causing the blood to flow back to the heart regardless of the posture of the patient. Adrenalin chlorid acts on the heart and the blood vessels, but not on the vasomotor center. In the normal animal, in every degree of depression, when the cervical spinal cord has been severed, or the medulla destroyed, or the animal decapitated, adrenalin gave a definite control within certain limits over the blood pressure—raising it even twice as high as the normal. It must be used carefully and in great dilution with saline solution. It was usually used in 1 to 50,000. In large doses it may over-stimulate the inhibitory mechanism in the heart. This may be prevented by atropin. A decapitated animal was kept alive for 10½ hours by adrenalin and artificial respiration. The effect of adrenalin on the heart and blood vessels may be obtained after death. Most animals could within certain limits be brought back to life again.

In one experiment 15 minutes after a dog's heart and respiration had entirely ceased adrenalin in 1 to 50,000 solution was introduced into the jugular vein, artificial respiration was given, and rhythmic pressure was made on the thorax over the heart. Normal respiration and blood pressure were re-established.

A remarkable effect on a patient was obtained by a combination of the pneumatic rubber pressure suit and adrenalin. The research extended over three years, and is based on observations on more than 200 animals and many clinic cases.

275 Prospect Street.

Special Article.

VACATION NOTES.

G. FRANK LYDSTON, M.D.

Professor of Genito-Urinary Surgery, Medical Department, University of Illinois; Surgeon to St. Mary's Hospital.

CHICAGO.

2. SAMOA.

As one approaches the equator he instinctively begins to shrivel a bit in anticipation of a pitilessly hot sun and sweltering nights—suggestive of a blazing moon. This unpleasant prospect is usually realized, but in entering the South Seas during the season of the "South West Trades" it is different, quite. The trade winds make the air delightful, night and day, unless one happens to have a state room on the lee side of the ship. Here, it is a bit stuffy, but not so much so as in a little cage of a room at home in summer. Weather which can be said to be really warm, is first encountered within three days of the equator—north, and on the third day after crossing the equator it is positively cool. The experience of increasing cold as one goes south, is odd when experienced for the first time.

I rather regretted that Neptune no longer boards vessels crossing the line. There was not even a ripple of excitement, not as for fun, it was entirely absent save for the evident apprehension of one young Englishman, who really more than half believed the statement of the waggish first mate, to the effect that vessels often bumped the line pretty hard in crossing.

It is not surprising that Robert Louis Stevenson should have selected Samoa as the ideal home spot of the world. The Samoan Islands are as beautiful as a dream of Paradise. Pago Pago, the principal seaport—after Apia—has a landlocked harbor surrounded by high, verdure covered hills, which is ideal. One is especially impressed with the virile greenness of the landscape, which suggests a blending of the tropical with the characters of that of our own eastern states. Imagine the scenery of portions of the Hudson, bordered above and below with palms and giant ferns, and the picture is complete. It is a pity that there are no hotel accommodations at Pago Pago, for the climatic conditions are peculiarly favorable for invalids.

The physique of the Samoan islanders attracts attention at once. The men are magnificently proportioned—rather better than the women. As I looked at these natives, I understood Mark Twain's comparison of white and brown skins. I chanced to see a half-naked fellow, as stalwart as possible and with a head like a Greek god, standing side by side with a good-looking young white man. The magnificent physique, clear brown skin, and noble features of the semi-savage made the white man look like a pretty poor specimen of the *genus homo*. Much depends on the point of view. The white man, as seen here, on the native heath of the Samoan Islander, has no occasion for self-conceit. I was promised still handsomer brown folk in New Zealand, and, as will be seen later, I was not disappointed. I saw but one incongruous thing among these primitive folk—a little native boy dressed in conventional civilized garb. He was an awful discord.

There is much of interest that might be said of picturesque Samoa, but I fear the blue pencil of the mighty editor; who is not in sympathy with non-medical articles in medical journals. At first sight it might be supposed that one would have some difficulty in gathering items medical in a crude little semi-savage community like Pago Pago. Indeed, the prospect of gathering something which might afford a *raison d'être* for a contribution to THE JOURNAL seemed to me at first rather gloomy. After poking about the place for a few hours, however, I changed my mind. The first thing I noticed was the "up-to-dateness" of the Samoans. Uncle Sam had ordered all of the natives to be vaccinated, and the entire population was nursing sore arms. I was informed that secondary axillary glandular infection was frequent. I saw several cases of this kind. Pus infection is frequent there in all sorts of surgical conditions, especially among the natives. Another "hall-mark" of civilization was a native with a saddle nose and deformed superior maxilla from syphilitic necrosis. As one intelligent native expressed it, "the white sailors bring plenty of both diseases." Among a crowd of natives whom I saw at Pago Pago, was a typical albino. He was a pure-blooded Samoan, and his pink skin, light eyes, blonde hair, bushy white eyebrows and scanty white mustache looked weird enough beside the dark skins and black (or chemical red) hair of his fellows. Apropos of blonde hair, I was amused to note that even Samoa has its "bleached blondes." Blonde and red hair among the natives—both men and women—is frequently seen. They bleach it to varying shades with quicklime. The feminine combination of a single, none too ample garment, a very ample figure, brown skin and bushy reddish blonde hair would give a State Street dude heart failure.

The prevalent diseases of Samoa are pneumonia, simple continued fever, and elephantiasis. Fully 15 to 20 per cent. of the natives have elephantiasis in one form or another. Pneumonia is frequently met, and despite the ignorance and superstitious malpractice of the natives, most cases recover. It is very fatal, as with us, among the aged. Meningitis or nephritis usually occurs as a complication in fatal cases. The natives think that the disease is due to a devil within the chest, who keeps the patient from breathing. The devil is exorcised by exercising the patient—forcing him to walk about, or at least sit up.

Pago Pago has a government hospital, a little one-story

affair that looks unpromising enough. But it is a good service, all the same, and although it has a capacity of only about fifteen in-patients, good work is being done there. The clever young naval surgeon in charge displayed a trophy in the form of an appendix, and showed a recovered patient. The case was that of a sailor, taken suddenly with characteristic abdominal pain. He was operated on 36 hours later. The appendix was gangrenous and had sloughed off. It contained several fecal stones as large as a date seed, and lay free in the abdominal cavity. There was no walling off. A portion of omentum was gangrenous and adhered to the appendix. No drainage was used primarily, but the wound had to be reopened and drained because of necrosis of a small area of bowel. Gas escaped, but no feces. Recovery was perfect. The surgeon thought he should drain next time—and I quite agreed. Appendicitis in the South Sea Islands! Verily, the world do move.

Among other cases I saw the successful result of a recent Pirogoff amputation, and a complicated hare lip and cleft palate operation in which resection of the jaw and formation of an osteal flap from the intermaxillary bone were resorted to. I saw a number of cases of elephantiasis. Among the recent operations was a case of tracheotomy for edema glottidis, apparently following some simple throat infection. Through the ignorance and maltreatment of the patient's native friends, this case was lost—an entirely unnecessary result.

There are many eye cases—corneal ulcers largely. Iridectomy is a frequent operation to remedy defective vision resulting from these. Much to my surprise I saw one case of bronchopneumonia in a child. Apropos of pneumonia, the explanation of the favorable results which occur, despite native superstition and ignorance, is probably the practically out-of-door treatment it receives. This point is not without its lesson for physicians of more civilized communities.

Laying aside professional enthusiasm for the moment, what most impressed me at Samoa was the fact that it belongs to our Uncle Samuel. The Navigator Islands are a long way off, but they are pretty, and they fly Old Glory.

(To be continued.)

Clinical Report.

A CASE OF DIPLACUSIS MONAURALIS.*

EMIL AMBERG, M.D.
DETROIT.

Mr. G. T. N., aged 28, consulted me in the beginning of May, 1902, and complained especially that he was hard of hearing in his right ear and that some tones sounded double.

The hearing test showed: 1/100-150 i; watch 6.5/100-150 i; + Rinné +; Weber = After use of catheter; 3/100-150 i; watch 16/100-150 i.

Between the time mentioned and Aug. 16, 1902, the patient was treated at irregular intervals. His main complaint was ringing in the right ear, impaired hearing in same and the very annoying and irritating phenomenon that he heard certain tones double. When the left ear was tightly closed and a tuning fork was sounded, patient heard two distinct tones in his right ear; one seemed to be just the octave of the other.

Under treatment with the Eustachian catheter and sodium bromid, and incidental nasal treatment, the symptoms disappeared. Later I understood that the patient noticed the phenomenon first one morning when his little child was yelling, at which occasion he heard sounds of a certain pitch double. Under date of Nov. 17, 1902, the patient writes me, in part.

> I am pleased to add that since my last visit to your office everything seems entirely normal. No double tones, no ringing, and my hearing is as good as it ever was in the past. I am naturally very much pleased, etc.

This case is apparently one which must be classified as diplacusis harmonica monauralis.

According to Politzer,[1] diplacusis is a rare disease. We discriminate between, 1, diplacusis binauralis (*a*) dysharmonica, (*b*) echotica; and 2, diplacusis monauralis. According to Barth[1] diplacusis binauralis is an affection of the middle ear, and he thinks that the affected ear does not hear another tone than the sound ear, but that it hears it only with a different pitch. Jacobson[2] refers the affection to the labyrinth. Kayser[3] says:

> The explanation of diplacusis dysharmonica is somewhat difficult. The most simple way is to base our explanation on Helmholtz's theory of the function of the membrana basilaris of the cochlea and to regard it as a condition of this membrane, which is out of tune perhaps by a change of tension (Wittich, Knapp).

The diplacusis binauralis echotica consists in the phenomenon that a sound is heard later and weaker in the affected ear. The diplacusis monauralis, illustrated by the case reported, and apparently a very rare affection, is confined to one ear, as the name implies. Alt of Vienna, in an exhaustive essay[4] entitled "Disturbances of Musical Hearing," says, on page 222:

> I regard diplacusis monauralis in which tones are heard double or multiple in the affected ear as a disturbance of musical hearing in neurasthenics in the sense of nervous symptoms, because it has always been observed in nervous people when there was an ear affection present, and because it disappeared spontaneously within a few days or weeks.

I may add that diplacusis in rare cases may, perhaps, be of interest from a forensic point of view in declarations of witnesses, and furthermore, that we may well remember the symptoms in mental disturbances.

270 Woodward Avenue.

* Read before the Eye, Ear, Nose and Throat Section of the Wayne County (Detroit) Medical Society, Nov. 24, 1902.

1. See Politzer, 1901 Edition, p. 628.
2. Lehrbuch der Ohrenheilkunde, 1898, p. 86, and following.
3. Blau Encyclopaedie der Ohrenheilkunde, 1900, p. 85.
4. Monatsschrift für Ohrenheilkunde, etc., June, 1902.
5. See THE JOURNAL A. M. A., July 29, 1893.

New Instrument.

A NEW INSTRUMENT TO PROTECT THE BRAIN WHILE DOING CRANIOTOMY.

F. C. SCHAEFER, M.D.
Professor of Surgery in the Post-Graduate School and Hospital; Gynecologist to St. Elizabeth's Hospital; Surgeon-in-Chief to St. Hedwig's Hospital, Etc.
CHICAGO.

Every surgeon who has used the Gigli saw in opening the skull is cognizant of the fact that there is great danger of

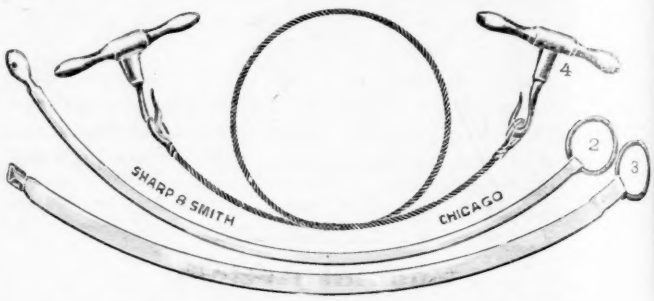

Fig. 1.—2. Watch spring; 3, brain protector; 4, Gigli saw.

sawing through the dura mater, arachnoid and pia mater into the brain tissue. The longer the cut the greater the danger, on account of the convexity of the brain surface. The saw forms the string of a bow, the latter being represented by the arched skull bone. It is practically impossible to make an incision much over three centimeters long without damaging the brain or its coverings. Having known this accident to occur in the hands of experienced operators, I concluded to make an effort to overcome this difficulty and devised a brain protector, or shield, which is herewith illustrated.

Fig. 1 shows the parts of the mechanism.

Fig. 2 represents my method for controlling hemorrhage from the scalp.[5] A rubber tube or cord is wound twice around the head and pulled taut; stitches b. b. of silk thread are carried through the scalp and tied around the constrictor at three or four points, to prevent the latter from slipping. I have used this method for ten years with satisfaction. Fig. 2 shows the first step in using the brain protector. The watch spring (2)

and brain protector (3) connected are passed between the skull and dura mater from the first through the second trephine opening.

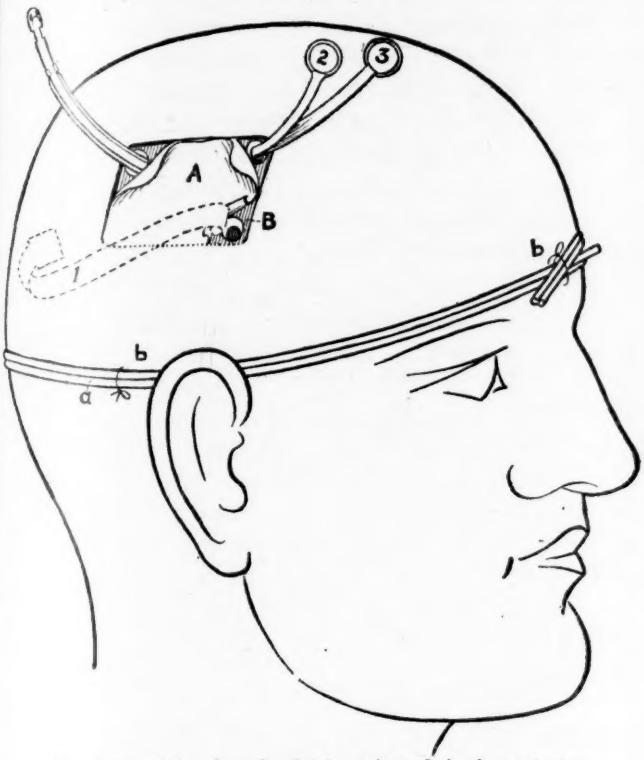

Fig. 2.—1, Retractor; 2, watch spring; 3, brain protector.

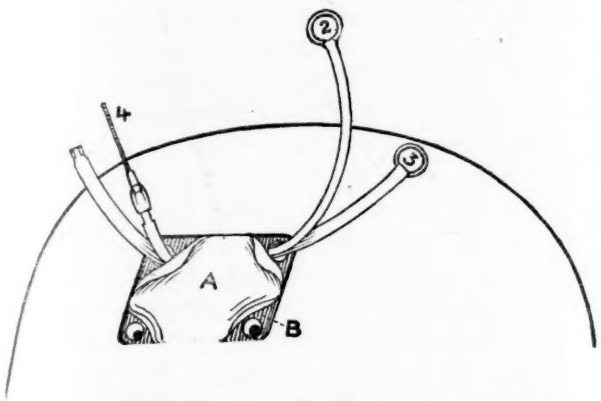

Fig. 3.—2, Watch spring; 3, brain protector; 4, Gigli saw; *A*, scalp; *B*, skull bone.

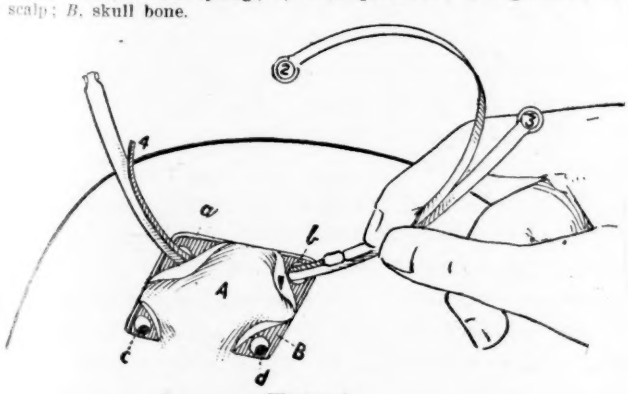

Figure 4.

Fig. 3 shows the second step. The brain protector (3) and watch spring (2) are separated, and the Gigli saw (4) is attached to the nub of the spring.

Fig. 4 shows the technic for pulling the watch spring (2) with Gigli saw (4) attached through the openings of the skull, leaving the brain protector (3) in position. The saw having emerged from the cavity is detached from the watch spring (2) and is now in position between the skull and brain protector, ready to cut through the bone. See Fig. 5, B, bone; 3, brain protector; 4, Gigli saw; C, dura mater. In sawing bring the saw obliquely through the bone so as to make a ledge (Fig. 6, X Y) for the bone lid to rest on. After having cut through one side of the intended lid, the same procedure is carried out as in Fig. 4 from a to c, and b to d. From c to d the saw is carried through the inner table only, indicated by dotted lines in Fig. 2.

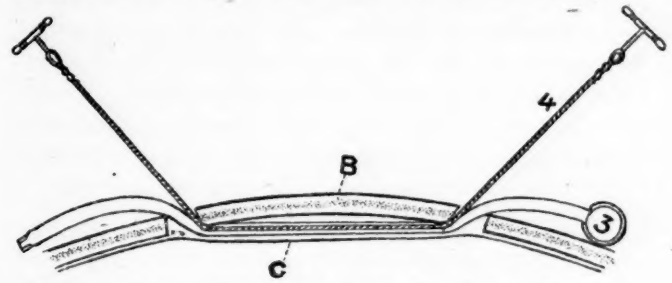

Fig. 5.—*B*, Bone; *C*, dura; 3, brain protector; 4, Gigli saw.

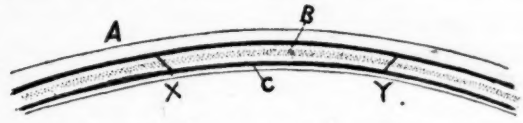

Fig. 6.—*X*, *Y*, Oblique cut; *B*, bone lid; *A*, scalp.

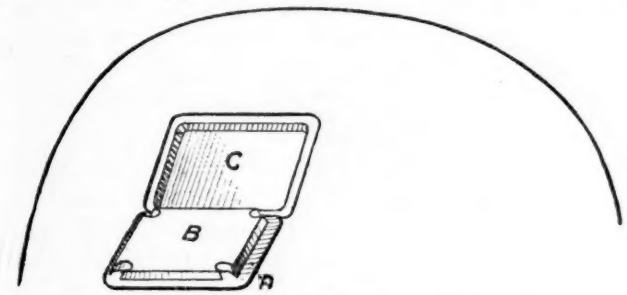

Fig. 7.—*A*, Scalp; *B*, bone; *C*, dura.

Fig. 7 shows the lid of the skull turned down: B, bone; C, dura; A, scalp.

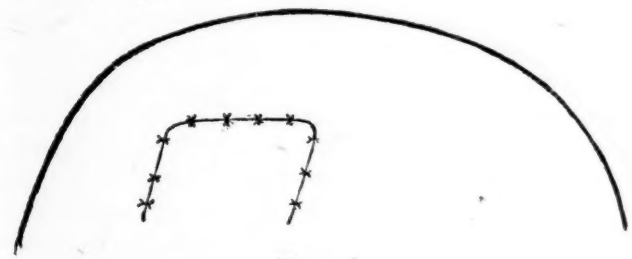

Figure 8.

Fig. 8 shows the lid replaced, and Fig. 6 a vertical section showing lid resting on ledge X Y.

The advantages of this instrument are apparent at a glance. There is absolutely no danger of sawing into the dura mater, an accident which frequently occurs when the Gigli saw is used without the protector. By sawing obliquely a beautifully even trap-door is formed, leaving a substantial ledge for it to rest on when closed. Any trephine with ¼ inch lumen may be used with the instrument.

To Destroy Odor from Ulcers.—If iodoform gauze be saturated with a solution of the compound tincture of benzoin and applied in cases of foul-smelling cancers and open malignant ulcers, the odor which renders life a burden, both to the patient and attendants, will be completely destroyed.—*Toledo Med. and Surg. Reporter.*

THE JOURNAL OF THE AMERICAN MEDICAL ASSOCIATION

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SATURDAY, JANUARY 24, 1903.

THE INCREASING PNEUMONIA MORTALITY.

Nearly three years ago[1] we called attention to the fact that statistics showed that pneumonia was causing more deaths than tuberculosis. We believe that we were the first to call attention to this fact, but it is becoming generally recognized.

The circular issued by the health department of Chicago for the week ending January 17 begins with the statement: "Since the census year 1900 pneumonia has claimed more than one-eighth of all the victims of the Grisly Reaper in Chicago; one-third more than consumption and 46 per cent. more than all other contagious and infectious diseases combined, including diphtheria, erysipelas, influenza, measles, puerperal fever, scarlet fever, smallpox, typhoid fever and whooping cough, the total of which deaths was 4,489 as compared with a total of 6,562 deaths from pneumonia." This statement is a striking one and certainly confirms our earlier assertions as to the predominance of pneumonia over other infectious diseases as a cause of mortality. While consumption has steadily decreased in its mortality, pneumonia is taking its place, and what was then first shown by us to be true of the vital statistics of Chicago and a few of the northern states, has, as shown by the figures here presented by the Chicago Health Department, been proven true of the country as a whole. While pulmonary tuberculosis has decreased from 18.21 per 10,000 population in 1880 to 14.44 in 1900, pneumonia has increased from 12.56 in 1880 to 13.49 in 1900, thus making a decrease of 20.7 of the deaths from consumption and an increase of 7.4 per cent. from pneumonia during the twenty years. Going still farther back, the deaths from consumption in 1860 were 25.28 per 10,000; in 1900 they were 15.30 per 10,000, a decrease of nearly 40 per cent. in forty years. From pneumonia the 48 deaths in 1860 in Chicago represent a rate of 4.40 per 10,000. In 1900, the 3,389 deaths within the city of Chicago represent a rate of 19.95 per 10,000, an increase of over 350 per cent. of pneumonia mortality.

It is customary to regard the increase in pneumonia mortality in the last decade or so as mainly due to the influenza infection which has been prevailing throughout the land. To a certain extent this is true, but the figures published by us in 1900, as well as these later ones, show it is not altogether the case, and we do not think that it can be so considered at the present time. Why some diseases increase in prevalence and mortality and others decrease is still one of the problems medicine has to meet, and we do not know of any more important one at the present time than those involved in the questions of the relative fatality of tuberculosis and pneumonia. The so-called "great white plague" may soon be considered a very secondary scourge to the human race if the increase of pneumonia mortality continues.

In conclusion we can not do better than quote from our former editorial: "While we are giving our attention to tuberculosis, a disease that is apparently on the wane, if only to a slight extent, we might divert our minds with one that is apparently increasing among us. It is not necessary to excite alarm, but a little more attention to a disorder that has, we have reason to believe, a widely varying range of virulence and which, in our northern climate, is our most fatal disease for at least half the year, would not be out of place. The fact that it is so closely related in its morbidity to climatic conditions would seem to indicate the chief line of prophylactic endeavor, but there are other factors also to be considered. At the present time it appears to be getting a little the better of us, and it is for us to find the reason why."

1. See Editorial, JOURNAL A. M. A., April 14, 1900, p. 942.

CONSERVATIVE METHODS IN THE TREATMENT OF PROSTATIC HYPERTROPHY.

Within the past few years operative methods of treating nearly all cases of prostatic hypertrophy have found many enthusiastic supporters. The Bottini operation and the different forms of prostatectomy have largely come into fashion, replacing castration and vasectomy, which were in vogue a few years ago. The fact that the question of operative treatment is still unsettled is attested by criticisms by good men of all the operations which are at present in general use. The adherents of prostatectomy condemn the Bottini operation with some justice because of the uncertainty and possibility of cutting through the bladder when operating in the dark. The adherents of the Bottini operation point out the dangers of so extensive an operation as prostatectomy in old men much weakened by disease. Bier's operation of ligation of the iliac arteries has practically gone into entire disuse, and we hear but little of the old-fashioned method of treatment of extreme cases of suprapubic or perineal cystostomy.

Thorkild Rovsing,[1] professor of surgery at the University of Copenhagen, has recently published an article giving the results of his own experience in various methods of operation and speaking strongly in favor of more conservative methods than are now in general use. He finds that various operators have placed the mortality of the Bottini operation from 5 to 33 per cent., and even Freudenberg, one of the strongest advocates of the operation, admits a mortality of 8.5 per cent. in 318 cases which he has collected from the literature.

1. Archiv für Klinische Chirurgie, 1902, lxviii, 934.

Prostatectomy gives an even larger mortality, and the less severe operations of castration and vasectomy show a comparatively small per cent. of cases permanently benefited. Rovsing, in concluding his article, advocates that patients who are not in specially bad condition, who have only a moderate amount of residual urine and who have intelligence and facilities for catheterization, be treated by systematic catheterization in preference to any of the operative methods. Those cases in which there is total retention or in case of severe cystitis and other complications he believes are preferably treated by suprapubic cystostomy. He performs the operation under local anesthesia with cocain solution, inserting a drainage catheter which can be left for an indefinite time, and by the apparatus which he employs soiling of the patient's clothing is avoided. Out of a considerable number of cases in which he has employed this method of treatment none of the patients have died as result of the operation, and in many cases in which the patients were in an apparently desperate condition so complete a recovery resulted that they were able to get about and resume their employment.

It would seem from this and from other recent articles on the subject that there is a tendency to protest against the ultra-radical operative methods that have been so strongly advocated.

PROPHYLAXIS OF BALDNESS.

If anyone had insisted 25 years ago that tuberculosis was only slightly hereditary, but distinctly communicable, they would have been laughed at. The germ theory has now become a doctrine of ever-widening scope, and we realize that many affections are directly communicable and only a few hereditary. At the present moment it seems that even for so old-fashioned an affection as baldness a complete change of opinion as regards etiology is taking place. As with tuberculosis, so it has long been noted that baldness is likely to run in families. The sons of bald fathers are all the more likely to become bald young, and it is not the rule to find a single bald brother where there are a number in a family. On the other hand, daughters seldom become bald, but then the women folk rarely use the combs and brushes of the male members of the family, while boys not only use such articles in common, but often exchange hats, have their hair cut frequently at barbers, and in general are not rarely in circumstances in which they are likely to contract the disease, if it is communicable.

It is nearly ten years now since Sabouraud at the Pasteur Institute pointed out that premature baldness is practically always associated with the presence of certain bacteria. The seborrheic condition causing what is known as dandruff, on which early baldness probably often depends, he demonstrated to be a very probable result of the presence of these micro-organisms. Bacteriologic investigations made since have tended to confirm this opinion, and while they have failed to show the existence of any specific germs, they have made it appear probable that microbes play an important rôle in causing the increased desquamation of the epithelium which chokes up hair bulbs and finally leads to their obliteration. Undoubtedly the ordinary conditions of scalp hygiene among men are favorable to the development of these germs. The circulation to the scalp all comes from the vessels of the neck and finds its way over the bony skull to be distributed to the hair bulbs. It is especially likely to be interfered with by the pressure of the hat band, and that this is an important factor in the etiology of alopecia can be seen from the fact that baldness always begins just above the occipital prominence at the back or above the frontal bosses anteriorly, that is, just where the pressure of the hat band on blood vessels is most likely to be occlusive. This interference with the circulation lowers the resistive vitality of these parts of the scalp and consequently provides opportunities for the growth of micro-organisms. It must not be forgotten, moreover, that these three points mentioned are especially liable to infection. The comb and brush are used particularly in arranging the whorl of hair in the occipital region and in parting the hair and brushing it back over the frontal bosses anteriorly. If infection plays an important rôle, then, in the production of baldness, these are just the parts that, theoretically, should be first affected, and from which infection should spread to the other parts of the head. As a matter of fact this is what occurs in practice.

Greater care should be taken with regard to brushes and combs, especially in families in which early baldness is the rule. The hair brush should be dipped in an antiseptic solution several times a week. Combs should be boiled regularly and frequently, and under no circumstances should members of precociously bald families use other combs or brushes than their own, or allow them to be used on them, in barber shops, unless they are assured of their sterilization beforehand. These precautions may seem a high price to pay for the prophylaxis of premature baldness, and many will prefer to take the chance of becoming bald, but some have such a horror of the affliction that they will willingly put themselves to much trouble to prevent it.

A RUSSIAN LIBEL ON PHYSICIANS.

A Russian writer of fiction, one Veresayeff, or Smidovitz, has recently made something of a sensation by a libelous work on the medical profession. He claims to have studied medicine, but relinquished practice because he had not the nerve to use the knife and open an abscess, and consequently lost his patient by septicemia. Accepting this as a fact one can allow something for such an individual's idiosyncrasies, yet they do not justify his publication of his libelous fancies as facts, and making such statements as that human vivisection is a common practice; that every medical discovery is

made at the expense of the lives of scores of hospital patients ruthlessly sacrificed in experiments, and that murder in the name of science is constantly being performed. This work will probably be soon put in a form accessible to American readers, but we need not go abroad for all of this class of literature. We have plenty of ingenious fiction writers with an abundant lack of conscience to stimulate their mischief-loving propensities. A recent communication in one of our great dailies is an instance of the point, and we have before us a clipping from a local Iowa paper which makes the statement with apparent full belief in its truth, that it is a regular practice of the medical colleges in Chicago to purchase from gypsies healthy children for the purpose of clinical experiments and demonstrations.

However ridiculous or improbable, these stories find some believers, and these not always among the most ignorant. The antivivisectionists take them up at once and make the most of them for their purposes, and there are yet others who accept them without criticism from the mere habit of credulity. Some of the mud, of course, sticks, and it helps the quacks, the faith curers and all the tribe that fatten on human delusions. They, of course, encourage it, and it is easy to perceive the taint of their influence in the anti-vaccination and other tendencies of the antivivisectionists and all the other slanderers of the profession. As the only object of experimentation is to obtain what may be of benefit to mankind, we may claim, in some measure, the reward of those who have all manner of evil said against them falsely for righteousness sake. The scientific devotee to whom human life is nothing, and who is devoid of all human sympathies, is, we believe, unknown among physicians; we have never met him outside of fiction.

Whatever is said or done, one thing is certain, the public does not lose faith in the honest physician. It may go astray on quackery and a part of it may be joined to its idols for a time, but our profession will be in demand till that happy time—which only the rainbow chasers foresee—comes, when preventive medicine has done its perfect work and disease is abolished. That is an ideal which we may approach but can never attain.

PRIZE ESSAYS ON TUBERCULOSIS SANATORIA.

The first number of the London *Lancet* for this year fills its original department with the three prize essays in the competition for the plans of the king's sanatorium. The first, by Dr. Arthur Latham, is a practical monograph on tuberculosis sanatoria. Beside the very complete architectural details on the modified pavilion plan, it gives elaborate statistics and an historical introduction, and a discussion of the questions of immunity and infection as regards tuberculosis, and full comparative statements of institutions in various parts of the world, not only as to their physical features, but their methods of treatment, sanitary arrangements, etc. The other essays, by Drs. F. J. Wethered and Egbert C. Morland, are also meritorious and elaborate, but, in our opinion, less so than the first, though all three supplement each other and cover the subject very thoroughly. As a whole the number is a valuable contribution to the sanatorium treatment of tuberculosis and will be, in a measure, a standard document for some time.

THE TRANSPORTATION OF ANIMALS.

A bill is proposed in Congress to allow animals, while being transported in cars, to be kept for forty hours without being unloaded. The statute which this bill is proposed to amend places a limit of twenty-eight hours. It is easily realized that meat suffers a great deterioration when animals suffer as they will under such cruel regulations. It is often made unfit for food. There are other good reasons for a protest which do not concern us as medical men—for example, the cruelty to the animals. Further, if this measure purports to be for the purpose of saving in the cost of meat to the consumer, it is not likely to accomplish this while the combine is free to put the saving into its own coffers. The proper way to transport meat is in refrigerator cars. The proper place to kill cattle is as near as is possible to their free and healthy life on the field and with as little exhaustion, fright and suffering as can be. The less of these forty-hour runs such as this bill would legalize the better for those who eat the meat, as well as for the animals.

SECTARIANISM IN MEDICINE.

A deep, dark and dangerous conspiracy has been unearthed by a member of the homeopathic medical department of Michigan University.[1] It is, in short, an attempt under the auspices of the American Medical Association to amalgamate and ultimately annihilate the homeopathic school of practice. This is being done by the publication of the fact that any reputable and legally qualified physician who will agree not to profess or practice medical sectarianism is eligible through the county societies to membership in the Michigan State Medical Society. This does not seem at first sight nor after due consideration to be a very criminal proposition. Nor is there anything in the past professions of the homeopathic school to permit it consistently to object. It has flourished on its *soi disant* reputation of being a "new school," and inferredly a broader, better and more liberal body of practitioners than the "old school," whose alleged persecutions have been its best capital. The sudden wiping out of this stock in trade is naturally a blow to the invested interests of homeopathy—hence these tears. They mean that homeopathy has been existing on a name, that its progressive practitioners recognize the fact and that the higher principled among them, in fact, all who are worthy, are ready to honestly admit it. We believe that there are many such and that they are the very cream of the homeopathic profession. The same is true of the eclectics, one of whose journals also prints a similar tirade from one of its contributors. The offering of an olive branch, however, to the medical editors, medical professors and other official members of the irregular schools is a most uncomfortable and unwelcome local

1. The Medical Century, January.

application of coals of fire to their heads. We could ask no better indication that the liberal policy is likely to be effective than just such utterances from those whose financial interests are involved in the continued existence of the sectarian schools and journals.

METHOD OF INFECTION IN TYPHOID IN INFANTS.

We publish in this issue an article[1] with its discussion on typhoid fever in infants, in which the method of infection seems to cause more difficulty than we consider justified. Thompson is quoted as saying concerning typhoid fever that "from its etiology its occurrence is impossible in breast-fed infants." Brush says, "What I can't understand . . . is, if typhoid is a water-borne disease, how the nursing babe can get it." Cotton remarks, "I do not think we should let this subject go out with the impression that children are exempt from typhoid because they do not drink water. . . . That typhoid may be nursed from the mother's breast there seems to be little doubt." These remarks suggest a valuable field for clinical observation, namely, whether or not typhoid may be transmitted through the mother's milk, but in this discussion there seems to be left out of consideration the fact—it seems to us to be a fact—that almost every child imbibes water in different ways. If we are to believe there is a basis for the warnings given by those authorities who emphasize the danger of washing utensils in typhoid-laden water, these babies have many possibilities of being infected. But allowing that to be an almost impossible source, may we not consider that the majority of these babies are frequently given medicine in unboiled water? The most common way, however, would seem to be the use of water as a drink, since mothers are continually advised to give their babies water between nursings. In what way may we be sure that a given child never has had water to drink?

Medical News.

DISTRICT OF COLUMBIA.

No Action on the Army Canteen.—The committee on military affairs of the House of Representatives has decided to take no action during the present session of congress on the canteen question.

Physicians to the Poor Enjoined.—The board of charities has sent the following report and recommendations to the commissioners of the District urging their adoption:

A report having been received by the board of charities that physicians to the poor have occasionally made charge for issuing to poor patients certificates for illness to enable them to draw benefits from insurance companies, on investigation, was found to be true. The board is of the opinion that a physician to the poor should not be allowed to collect fee of any kind from patients treated by him as physician of the poor and carried on his list as such and to whom medicines are supplied at the cost of the district. They recommend to the commissioners the adoption of the following: "Physicians to the poor while acting in capacity of such are forbidden to receive fees for any service rendered the patients whether such service is in the nature of issuing certificates or otherwise."

Reed Memorial Meeting.—A memorial meeting of the Medical Society of the District of Columbia in honor of the late Major Walter Reed, U. S. Army, was held Dec. 31, 1902. The president, Dr. Samuel Adams, read an address in which he referred to Dr. Reed's career in the District of Columbia as a member of the society. Medical Director Robert A. Marmion, U. S. Navy, presented a biographical sketch; Lieutenant-Colonel Jefferson R. Kean, U. S. Army, considered him as a medical man in the Army; Dr. Albert F. A. King mentioned his qualities as a teacher; Dr. Chas. W. Stiles commended him as a medical writer. General Leonard Wood, U. S. A., spoke in laudatory terms of Dr. Reed's medical work in Cuba, and Dr. William H. Welch, Baltimore, referred to him as a scientific investigator.

Consulting Staff, Government Insane Hospital.—Dr. Alonzo B. Richardson, superintendent of the Government Hospital for the Insane, appointed the following physicians to the consulting staff: Internal medicine—Drs. Samuel S. Adams, G. Wythe Cook, Sterling Ruffin and James D. Morgan; general surgery—Drs. J. Ford Thompson, George T. Vaughan, William C. Borden and William P. Carr; gynecology—Drs. Joseph Tabor Johnson, Henry L. E. Johnson, J. Wesley Bovée, and Isaac S. Stone; ophthalmology—Drs. Swan M. Burnett, D. Kerfoot Shute, William K. Butler and E. Oliver Belt; laryngology—Drs. Charles W. Richardson, J. Julius Richardson, Walter A. Wells, and Frank T. Chamberlain; genito-urinary—Drs. D. Percy Mickling, Albert F. King and Wallace Neff; medical zoology—C. W. Stiles and Thomas A. Claytor; bacteriology—Drs. William B. French and Henry D. Geddings.

Washington Post-Graduate Medical School Opened.—The opening exercises of this school were held in the public hall of Columbian University January 12. Addresses were made by Professor Needham, president of Columbian University; Gen. George M. Sternberg, president of the school, and Dr. William H. Welch of Johns Hopkins Hospital, Baltimore. The officers and directors of the school are Gen. George M. Sternberg, president; Dr. J. Ford Thompson, vice-president; Dr. George M. Kober, secretary and treasurer, and Surgeon-General Walter Wyman, Surgeon-General Robert M. O'Reilly, Drs. Alonzo B. Richardson, Dr. Samuel S. Adams, Swan M. Burnett, Joseph T. Johnson, Sterling Ruffin, Edward A. Balloch, E. A. de Schweinitz, Henry L. E. Johnson, and William C. Woodward, directors. The clinics will be held at the several hospitals every week-day from 9 a. m. to 2 p. m. Laboratory work will be conducted daily from 2 to 5 o'clock. The teaching force numbers 104.

ILLINOIS.

Personal.—Dr. and Mrs. LeRoy O. Jenkins, Paris, left for a European trip, January 20.

City Hospital Contract Let.—The contract for the erection of the Rockford City Hospital has been let. It is expected that the building will cost about $50,000.

Officers of Cook County Hospital Staff.—At the meeting of the staff, January 15, Dr. Frank Billings was unanimously chosen president, and Dr. L. Blake Baldwin was re-elected secretary.

Harlem Schools Closed.—The board of education of Harlem has decided to close the public schools indefinitely on account of diphtheria, 20 cases of which have been reported to the board, with 6 deaths.

Re-Elected on Board of Health.—At the annual meeting of the State Board of Health, January 13, Dr. George W. Webster, Chicago, was re-elected president and Dr. James A. Egan, Springfield, secretary, each for a term of two years.

Scarlet Fever at Lake Forest.—On account of the prevalence of scarlet fever at Lake Forest, a temporary hospital has been opened for the care of those suffering from the disease. It has been decided that it will not be necessary to close the college at present.

Needs of State Charities.—The omnibus appropriation bill for the fifteen state charitable institutions calls for an expenditure of $5,005,890 for the two years beginning July 1. Of this amount $3,647,000 is required for ordinary expenses and $1,358,890 for special purposes, including new buildings at the Bartonville Hospital, an addition to the hospital at Watertown, a new building at the Anna Hospital and a hospital at the deaf and dumb institution.

Neely Made General Superintendent.—The president of the Board of County Commissioners of Cook County has appointed Dr. John R. Neely general superintendent of the county institutions at Dunning. This position is a new one. Its creation is a part of the work of reorganization which the president of the board has undertaken. Under it, the position of medical director is abolished, and the insane hospital, poorhouse and consumptive hospital are all placed under the sole supervision of the general superintendent.

Chicago.

Keen Will Hold Clinic.—Dr. William W. Keen of Philadelphia will hold a surgical clinic at Mercy Hospital, Wednesday, January 28, from 9 to 11 a. m.

Alleged X-Ray Injuries.—John Bortoli has sued Lakeside Hospital for $25,000 on account of injuries alleged to have been received as a result of an *x*-ray examination in 1901.

1. See pages 219 and 220.

Hospital of St. Anthony de Padua.—The report of this institution for 1902 shows that 969 patients were treated during the year, with 96 deaths, 31 of which occurred within 72 hours after the patients' admission to the hospital.

Personal.—Drs. Nicholas Senn and Henry P. Newman are on a month's cruise in the West Indies.——It is announced that Dr. G. N. Stewart, professor of physiology in the medical department of Western Reserve University, Cleveland, has been appointed to succeed Dr. Jacques Loeb at the University of Chicago, and will enter on his duties April 1.

Deaths of the Week.—During the week ended January 17, 626 deaths were reported, 110 more than for the corresponding week of 1901, and one more than for the preceding week. The death-rate per annum was 17.31 per 1,000. Pneumonia caused 131 deaths; consumption, 55; heart disease, 49; Bright's disease, 34, and violence, 34. Bronchitis caused 27 deaths, and diphtheria, scarlet fever and whooping cough 9 each.

Dominant Pneumonia.—The health department, in its report for last week, sums up the pneumonia situation as follows:

Since the census year 1900 pneumonia has claimed more than one-eighth of all the victims of the Grisly Reaper in Chicago, one-third more than consumption and 46 per cent. more than all the other contagious and infectious diseases combined, including diphtheria, erysipelas, influenza, measles, puerperal fever, scarlet fever, smallpox, typhoid fever and whooping cough, the total of which deaths was 4,489, as compared with a total of 6,562 deaths from pneumonia.

During the first seventeen days of the current year, out of the total 1,436 deaths reported up to the close of record hours last Saturday, 299 were from pneumonia—or a little more than one-fifth of the total deaths from all causes. During the first seventeen days of last year 227 pneumonia deaths were reported, the figures showing an increase of nearly one-third (31.7 per cent.) this year over last.

How to Check Pneumonia.—The commissioner of health, after showing statistics of the increase of pneumonia, sums up the measures whereby this increase may be checked, as follows:

1. It is well known that pneumonia is a highly contagious disease, the cause of which is a micro-organism in the sputa of those suffering from the malady, and that it is contracted by inhaling this germ. Therefore, the same care should be taken to collect and destroy the sputa that is taken in pulmonary tuberculosis, or in diphtheria or influenza.
2. During the illness the greatest pains should be taken to prevent soiling bed-clothing, carpets or furniture with the sputa, and after the illness the patient's room should be thoroughly cleansed and ventilated.
3. The fact that the disease is most prevalent in the winter season, when people are most crowded together and live much of the time in badly ventilated apartments, makes obvious the necessity of thorough ventilation of houses, offices, factories, theaters, churches, passenger cars and other public places, in order that the air which must be breathed may be kept clean and free from infectious matter.
4. Laymen should be taught not to be afraid of a patient who has pneumonia, influenza or tuberculosis, but to be afraid of lack of cleanliness about him during his illness, of failure to enforce prophylactic measures and of close, badly-ventilated apartments during the season when these diseases most prevail.
5. Since pneumonia is most fatal at the extremes of life—the young and the aged—special care should be taken to guard children and old persons against exposure to the infection of those already suffering with the disease and against cold, privation and exposure to the weather, which are potent, predisposing causes.

INDIANA.

Malpractice Suit.—Dr. N. Howard Thompson, Wabash, is being sued for $10,000 by Fred Garrett on the charge of alleged negligence. By the explosion of a torpedo a piece of tin was forced into the cheek of Garrett, who says it was not removed properly.

Photographic Identification of Candidates.—The State Board of Medical Examination and Registration now requires that each applicant for examination shall hand in with his application, a photograph of himself. The reason for this new rule is that it will prevent substitution of one candidate for another in the examination. Some cases have been brought to the attention of the board, in which substitution is claimed to have been practiced.

Mortality and Morbidity.—The total deaths in the state during December was 2,634, 228 more than for November, the respective death rates per annum being 12.3 and 11.6 per 1,000. In November tuberculosis caused 309 deaths; in December, 319; typhoid fever, 146 and 91 respectively; pneumonia 181 and 267; influenza, 7 and 19; smallpox, 2 and 17. Smallpox was the most prevalent disease in both months, 441 cases being reported in November and 642 cases in December.

The Board's Good Work.—During the year 1902 the Board of Medical Examination and Registration issued 196 licenses; refused licenses to 14 applicants who failed to pass examination; revoked two licenses, one for drunkenness and the other for non-residence in the state, and brought and defended many lawsuits with the satisfactory result that it has won in every instance. The greater part of the suits against the board were brought by "magnetic physicians," "osteopaths" and other irregulars who had been refused licenses.

MARYLAND.

Personal.—Dr. W. Clement Claude, Annapolis, suffered last week from sepsis, arising from a scratch on his finger in an operation. He is said to be improving.

Hospital Incorporated.—Incorporation papers have been taken out for the "Union Hospital of Cecil County" at Elkton. Among the incorporators are Drs. Charles M. Ellis and Howard Bratton, Elkton, and George S. Dare, Rising Sun.

State Board's Annual Meeting.—The State Board of Health met at Baltimore, January 14, in annual session. Dr. William H. Welch was re-elected president; Dr. William R. Stokes, bacteriologist; Dr. C. W. G. Rohrer, assistant bacteriologist; W. D. B. Penniman, chemist, and C. W. Mitten, inspector.

Peninsula Hospital Report.—The fifth annual report of the Peninsula Hospital, Salisbury, shows 276 patients treated. Only 183 patients were residents of the County (Wicomico); 115 operations were performed. The buildings were strained to their utmost capacity to accommodate the demands. A new hospital building is in course of construction.

Smallpox.—Dr. John S. Fulton, secretary of the State Board of Health, reported two cases of smallpox at Stockton, two at Berlin, and two in Belair, also a number of "concealed cases" at Cumberland. The outbreak at Snow Hill has been subdued. A case of smallpox is reported at Kingsville, Baltimore County, in a man running on a boat between Baltimore and Southern Maryland, where the disease exists. Seven negro "suspects" gave themselves up to the police January 17. They had been employed on Little Gunpowder River, where one of their number became infected with smallpox. They were driven out of camp and their shanty burned. They immediately came to Baltimore and disappeared. One of the seven was found to have the disease and all were sent to the Detention Hospital.

Baltimore.

The Friedenwald Estate.—The personal property of the late Dr. Aaron Friedenwald is appraised at $76,071.36.

Vital Statistics.—The number of deaths for last week was 230. Measles is still very prevalent, 317 new cases being reported, but no deaths. There were 40 deaths from pneumonia.

Personal.—Dr. Morris Wiener celebrated his ninety-third birthday on January 15. He is a native of Berlin and a graduate of the University of Berlin.——Dr. George W. Dobbin has returned from a visit to Jamaica.

Alumni Meet.—A general meeting of alumni of the various schools of the University of Maryland was held, January 21, to devise ways and means of upbuilding the university and placing it on a modern footing as to government and endowment.

Hospital for Consumptives.—The annual meeting of the directors of the Hospital for Consumptives was held January 12. The hospital is located on an estate of 75 acres near Towson, the county seat of Baltimore County. It had during the year an average of 30 patients. It is dependent on the help of the city and state and also on private subscriptions. The woman's board connected with it contributed $1,100. Funds are needed for further cottages, also for a suitable entrance. Dr. Henry Barton Jacobs is to be the future president.

NEW YORK.

New York City.

Appeal for the Insane.—According to the report of the State Charities Aid Association, there is such urgent need for increased accommodations for the insane that the legislature is to be asked for an appropriation of at least $6,000,000.

Lectures on Spirit and Drug Addictions.—Dr. Thomas D. Crothers, Hartford, Conn., will deliver a course of lectures on alcoholism, morphinism and other drug manias, at the New York School of Clinical Medicine, 328 West Forty-second Street, on the first Tuesday of every month at 11 a. m. and 8 p. m. The profession is invited.

Hospital Closed.—The Williamsburg Hospital, which has been in existence for thirteen years, and which, prior to 1895, was known as the Brooklyn Throat Hospital, has been forced by the financial stress resulting from the unusually high price of coal and food, to close its doors. Its ward patients have been transferred to the Eastern District Hospital and the ambulance has been sold to the Bushwick Dispensary.

Mental Clinic.—The past few days in New York City have seen a novel clinic, namely, the utilization of the vast material of the Manhattan State Hospital by Dr. Adolph Meyer, the director of the State Pathological Institute. Eighty physicians from the various state hospitals for the insane gathered to study mental disease, and make themselves familiar with the latest developments in their special field of work.

Formalin Injections for Septicemia.—The daily papers have been stirred up for the past few days over the news that Dr. Barrows laid before the New York Obstetrical Society a treatment for septicemia, which had yielded an unexpectedly brilliant result in one case at Bellevue Hospital. The method consists in the intravenous injection of a 1 to 1,500 solution of formalin. We are not informed how the pernicious effect of the formalin on the blood corpuscles is prevented. Dr. Barrows tried this treatment on a second case, this time at St. Vincent's Hospital, January 16, and the same evening the method is said to have been tried at the Hahnemann Hospital. Dr. Barrows' first patient is said to be out of danger; his second case is improving, while the patient at the Hahnemann Hospital is reported to be slightly better. All three were looked on as practically hopeless cases before the formalin injection was tried.

Buffalo.

Personal.—Dr. Dennis J. Constantine has resigned as tenement-house inspector in the department of health.——The following additional appointments have been made to the staff of the Emergency Hospital; Drs. E. J. Meyer and E. M. Dooley, surgical department; Dr. L. G. Hanley, gynecology; Dr. J. J. Mooney, throat and ear; Dr. D. M. Keiser, ear, and Dr. B. H. Dagnett, genito-urinary.

Hospital Overcrowded.—Superintendent of the Poor Lafayette Long has reported to the County Board of Supervisors that the County Hospital was overcrowded, having 385 patients, whereas its capacity is limited to 350 patients. It is necessary to send 40 or 50 patients from the County Hospital to the Almshouse to sleep. The air space of the hospital is also inadequate, and is detrimental to the patients.

December Mortality.—The monthly report of the department of health for December shows an annual mortality rate of 16.31 per 1,000. The principal causes of death were pulmonary consumption, 46; diphtheria, 12; typhoid fever, 14; debility, 44; apoplexy, 23; valvular heart disease, 32; acute bronchitis, 20; pneumonia, 63; nephritis, 19; violence, 35. Total deaths for December were 503, as compared to 446 for December, 1901.

PENNSYLVANIA.

Hospital Bequest.—By the will of Susanna H. Thomas the Chester County Hospital receives $1,000.

Workingmen's Hospital Planned.—Plans are being matured for the erection in Pittsburg of a hospital, with branches throughout the city, particularly for the treatment of workingmen. At least $2,000,000 is needed for the project, and it is said that Andrew Carnegie has promised substantial aid.

Outbreak of Smallpox.—A recent outbreak of smallpox occurred at Bristol. The funds of the borough treasury are exhausted, more than $3,000 having been spent in fighting the disease. There is talk of a mass meeting to devise means for raising a fund to establish a municipal hospital and to fight the contagion. On January 1 Henry Althouse, Duquesne, died of what was diagnosed measles, but which proved to be smallpox. Three of his brothers have since died, on the same day, of smallpox, and a fourth is critically ill.

Re-Establishment of Emergency Fund Urged.—The associated health authorities of Pennsylvania are urging on the members of the legislature the pressing need of immediate re-establishment of the emergency fund to be used in coping with epidemics of contagious disease. It is especially needed in stamping out smallpox. Dr. Samuel T. Davis, chairman of the association's legislative committee, says that there is also crying need of legislation to protect streams from unnecessary pollution; that typhoid fever, because of such pollution, is costing the state thousands of lives and hundreds of thousands of dollars every year.

Philadelphia.

New Pavilions for Consumptives.—On January 16 ground was broken for the six new pavilions for consumptives to be erected at the Philadelphia Hospital.

Additions to St. Agnes' Hospital.—Improvements and additions are to be made to St. Agnes' Hospital at a cost of some $[illegible]000. The new buildings will include a nurses' home, an operating room, a children's ward and an isolation ward.

Episcopal Hospital Improvements.—At its recent annual meeting the board of managers of the Protestant Episcopal Hospital decided to erect a dispensary building at a cost of $75,000. A ward for contagious diseases is also to be constructed.

Advocates Higher Standard.—Provost Harrison of the University of Pennsylvania, in connection with his review of the year's work of the institution, suggests, for promoting a higher standard of medical education, the appointment by the state of a board of examiners to pass the qualifications of those seeking admission to medical colleges.

Bequests and Donations.—A woman, who desires that her name shall not be made public, has given the University of Pennsylvania Hospital $10,000 for the founding of two free memorial beds.——Bequests of $1,000 each to the Jewish Hospital Association, the Jewish Foster Home, and the Jewish Maternity Association are made in the will of Jacob M. Engel, recently deceased.

Typhoid and Variola.—During the week ended January 18, 323 new cases of typhoid fever were reported. It is officially estimated that 2,000 cases are now under treatment in the city. Thirty-five new cases of smallpox, with two deaths, were reported for the week. The Masonic Home, which has 76 inmates, is quarantined because of the development of smallpox in an employe of the institution.

The Phipps Gift.—There is an obstacle to the immediate acceptance of the munificent gift of Henry Phipps of New York, a former partner of Andrew Carnegie, who proposed to establish in Philadelphia an institute for the study, treatment, and prevention of tuberculosis, and to endow it with $1,000,000 or more. There is a state law which prohibits the establishment or maintenance of any additional hospital in the built-up portions of cities. It is believed that the legislature will promptly repeal the law. The action of the legislature will probably determine whether or not Philadelphia will become the beneficiary of Mr. Phipps.

GENERAL.

Consolidation of Inebriety Journals.—The *Bulletin* of the American Medical Temperance Association and the *Journal of Inebriety* have been consolidated. The former was a quarterly medical review, the latter is the well-known monthly, the only publication devoted exclusively to liquor and drug diseases.

National Leper Colony at Hawaii.—The Senate special committee on Hawaiian affairs, in regard to leprosy, recommends the establishment of a National home for lepers of the United States on the island of Molokai and that the management be transferred to the U. S. Public Health and Marine-Hospital Service.

Manila General Hospital.—Mass meetings of citizens of Manila have been agitating the subject of a general hospital, of which there is need. The hospitals supported by voluntary contributions are not sufficient to meet the need and are not sure of support. The Philippine Commission was petitioned to take up the matter.

The Enno Sander Prize of the Association of Military Surgeons of the United States for 1903, will be awarded to the author of the best essay on "The Differential Diagnosis of Typhoid Fever in Its Earliest Stages." The board of award will consist of Dr. Austin Flint, New York; Col. Calvin DeWitt, U. S. A., and Dr. Victor C. Vaughan, Ann Arbor. Full information may be obtained from Major James Evelyn Pilcher, Carlisle, Pa., secretary.

A Philippine leper colony will be established on the island of Camalian, at a central point. The colony will be somewhat self-governing in its internal affairs, as some lepers are persons of high standing and ability, according to the *Manila American*. No marriages will be allowed, recent and mild cases will be separated from those that are severe and of long standing, relatives will be allowed to live near and see their kin at stated times, each person will be given a plot of ground and tools and it is planned that all vegetable produce necessary shall be raised on the island.

The Plague in Mexico.—During the first 15 days of January 107 deaths from plague occurred at Mazatlan, Mexico, and 106 houses have been burned. Money for relief and to furnish food and supplies is being contributed from California and other adjoining states. The Mexican congress held an extra session and that government is endeavoring to control the disease. The plague was rumored to be present in Mexico, Guadalajara and Sonora, Mexico, and Ensenada, Lower California, which reports were emphatically denied. Many towns in that part of Mexico are undergoing a most rigid sanitary overhauling, but there is no proof that the disease

has spread beyond Mazatlan. Quarantine is reported as rigid.

Proposed Army Hospital Corps Changes.—Surgeon-General O'Reiley has prepared a bill for the reorganization of the Army Hospital Corps, which has received the approval of Secretary Root and been presented to Congress. It provides for the Hospital Corps 300 first-class sergeants at $450 per annum, 300 sergeants at $300 per annum, 20 corporals at $240 per annum, 1,600 privates, first-class, at $216 per annum and 875 privates at $129 per annum, making total cost $770,400. By this arrangement the Hospital Corps will gain 95 men. The proposed classification of enlisted men is for the purpose of giving them titles more in accord with those used to designate the enlisted men in other branches of the service. Secretary Root's indorsement says General O'Reiley's proposed legislation will be a material benefit to an important branch of the military establishment.

The Senate Committee on Military Affairs has reported favorably on the bill providing for the promotion to next higher grade on retirement of those officers who served during the Civil War, but have been retired since Aug. 11, 1898. Among those affected by this bill, should it become a law, are Surgeons-General George M. Sternberg and William H. Forwood, who would consequently be promoted to the rank of major general. As this promotion was recommended to Congress by resolutions of the American Medical Association at Saratoga last year and the Committee on National Legislation was directed to secure this action by Congress, the committee earnestly requests each member of the Association to write at once to the committee on military affairs of both the House and Senate and also to his individual senator and congressman to vote for the passage of this measure.

The Bubonic Plague Conference.—The first conference of the U. S. Public Health and Marine-Hospital Service with state health officers was held January 19 at the office of the department in Washington. The meeting was called to order by Surgeon-General Wyman at 10:30 a. m. Those in attendance were:

California, Dr. Mathew Gardner; Connecticut, Dr. C. A. Lindsley; Colorado, Dr. H. R. Bull; Delaware, Dr. C. W. Cooper, Dr. Alex. Lowber; District of Columbia, Dr. Wm. C. Woodward; Indian Territory, Dr. M. R. Thompson; Iowa, Dr. T. L. Kennedy; Indiana, Dr. J. N. Hurty; Louisiana, Dr. Arthur Nolte; Maine, Dr. Charles D. Smith; Maryland, Dr. John S. Fulton; Minnesota, Dr. H. M. Bracken; New Jersey, Dr. Henry Mitchell; North Carolina, Dr. R. M. Lewis; Pennsylvania, Dr. Benj. Lee; Rhode Island, Dr. G. T. Swarts; South Carolina, Dr. T. G. Simons; Vermont, Dr. H. D. Holton; Virginia, Dr. P. A. Irving; New York, Dr. Daniel Lewis; Tennessee, Dr. J. A. Albright.

STATEMENT OF SURGEON-GENERAL WYMAN.

Dr. Wyman, in his introductory remarks, gave the object of the conference and stated that requests for conference had been received from and invitations to attend had been extended to the boards of health of the following states and territories: Colorado, Connecticut, Delaware, District of Columbia, Indiana, Iowa, Kentucky, Louisiana, California, Maine, Maryland, Minnesota, Mississippi, New York, New Jersey, North Carolina, Pennsylvania, Rhode Island, South Carolina, Tennessee, Vermont, Wisconsin and Virginia.

SURGEON GLENNAN'S MISSION.

Dr. Wyman referred to the New Haven Conference and the inspections made at that time. He told of the appointment of Surgeon Glennan to investigate matters in California. Surgeon Glennan, until a short time ago, was chief sanitary officer of the Public Health and Marine-Hospital Service in Cuba, having been the chief quarantine officer of that island and detailed on General Wood's staff during the American occupation. He was given instructions of which the following are a part:

As soon as possible after your inspection at San Diego, you will call upon His Excellency, Henry T. Gage, Governor of California, and present the following matter for his consideration, viz.: that there have been reported to the bureau 18 deaths from bubonic plague in San Francisco during the months of August (9) and September (9), and that from the reports received during these months and prior thereto, there are indications that three of the cases within the present year may have been brought into San Francisco from other places. This and the increased number of cases reported in San Francisco make it desirable that a careful inquiry be made with regard to several localities.

From former expressions, the bureau feels assured that the governor will approve of this measure, and may designate a representative to co-operate with a bureau representative in making these inquiries.

After consultation with the governor, you will report to the bureau as to any arrangements which may be effected.

In the opinion of the bureau this inquiry should be conducted in a deliberate and thorough manner, without haste or agitation, and the findings should be fortified by bacteriological examination. Furthermore, the inquiry should be so conducted that in the possible event of affirmative findings, nothing done during the inquiry would prove an embarrassment in the prolonged measures of extirpation which would be necessary; for it should be remembered that in the eradication of the disease the measures relating thereto, while they need not be of a character to disturb business or cause excitement among the people, must be very thorough, continuous, and of probable long duration.

An arrangement was effected, in accordance with the above instructions, by which Dr. Gardner, chief surgeon of the Southern Pacific Railroad, who, so far as could be ascertained by the bureau, had taken no attitude antagonistic to the recognition of plague and its eradication, together with Surgeon Glennan, should inspect the places named. Reports have been received of the investigations made at Oakland, Berkeley, Alameda, San Jose, Sacramento, Davisville, Stockton, Fresno and Bakersfield. No plague was found in said places.

Dr. Wyman further says: "These inspections are to be renewed from time to time as practicable. They had not yet been completed when I left Washington for New Orleans to attend the meeting of the American Public Health Association, and while there I determined to personally visit San Francisco to become acquainted, from personal observation, with the state of affairs."

DR. WYMAN'S PERSONAL VISIT.

After narrating the visits and inspections he personally made and the conferences held with officials from December 17 to 22, Dr. Wyman summed up as follows:

"In my opinion the resolutions of the state and provincial boards of health at New Haven have been productive of good, and I found a generally expressed desire to have the demands of the situation fully met. Governor Gage announced his intention of standing by his statement, but offered to assist in any way possible in the elimination of the disease which prevailed in Chinatown. A more important assurance was that given by Dr. Pardee, who seemed to fully realize the gravity of the situation and expressed his determination to leave nothing undone in the matter of giving aid and support to the necessary measures. Mayor Schmitz admitted to me in the presence of a witness that the disease was plague, and though he pointed out that he was not in harmony with his city board of health, he would nevertheless do everything possible to rid Chinatown of the disease and would give his best efforts in that direction.

"The city board of health, who deserve a great deal of credit for the work which they have done under trying circumstances, were informed that in all possible ways the service would assist them, that it was understood that the work going on in Chinatown was practically their (the city board's) work, and that while Governor Gage had offered, in illustration of his desire to assist in the elimination of the disease from Chinatown, the services of two inspectors to aid in that work, they were declined, inasmuch as it was deemed unnecessary in view of the inspectors already employed by the city board and the Public Health and Marine-Hospital Service, and I also informed the city board that in case of difficulty being experienced in obtaining means or persons for the prosecution of the work in Chinatown assistance would be rendered them by this service.

"I asked Dr. Williamson, the then president of the city board, his opinion as to the amount of plague which might be existing in Chinatown, and he expressed the opinion that it was not great. Of course, we both agreed that nevertheless it exists, and that careful and persistent inspection and sanitation would be requisite for an indefinite period, extending possibly over one or two years.

"As to the appearance of Chinatown itself, as observed during my two inspections, it was evident to myself that the great work which had been carried on there under Dr. Joseph H. White, now Assistant Surgeon-General, had been of permanent value, and it was evident, too, that the City Board of Health had been at work in Chinatown in the meantime. I tried to impress on all concerned that the work of attending to plague in Chinatown is properly the work of the City Board of Health, and that this service would aid both in a substantial manner and with counsel and advice. The activity of the state board in Chinatown, San Francisco, does not appear to be necessary unless there should be a laxity on the part of the city board.

THE PRESENT CONDITION.

"With regard to the present status, since my visit to San Francisco the new Governor, Dr. Pardee, has been installed, Dr. Williamson's term as president of the City Board of Health has expired and the mayor has appointed a new man in his place, Dr. Stinson, a temporary chairman has been elected, but a new president has not been chosen. It remains to be seen what the attitude of the City Board of Health under the

new régime will be, but if the mayor has an influence over his new appointees, and maintains the attitude toward the plague in Chinatown which he plainly expressed to me, I see no reason why the work should not be successfully pursued.

"In the meantime, from newspapers which have been sent me, I learn that the city council has appropriated money for the destruction of rats, and has also authorized the appointment by the Board of Health of an additional physician for duty in Chinatown, the City Board of Health then undertaking the sanitary surveillance of Chinatown and inspection of the sick, assisted at present by Assistant-Surgeon Currie, in charge of the laboratory of the service in San Francisco, who, with Mr. Wong, the Chinese interpreter, makes inspections twice a day of Chinatown, and similar inspection is made by another detailed officer of the service, Assistant-Surgeon Lloyd."

Dr. Wyman gave a report from Surgeon Glennan of the investigation of rats. From Nov. 8, 1902, to Jan. 12, 1903, 481 rats were examined, 446 being caught alive and 35 found dead. Of these, 4 live and 11 dead rats, or percentage of 0.9 and 31.4 respectively, were found to be infected with the pest.

THE DECISIONS OF THE CONFERENCE.

The conference adopted the following:

I. The presence of plague in California is established beyond debate by:

1. The investigations of Kellogg of the San Francisco Board of Health, Ryfkogel for the California State Board of Health, and Kinyoun for the United States Marine-Hospital Service.

2. By the later investigations of Pillsbury for the State Board of Health, and by those of J. White, M. White, Flint, Currie, Carmichael, Blue and Glennan for the United States Marine-Hospital Service.

3. By the findings of Flexner, Barker and Novy, composing a special committee acting under Federal authority.

4. By the findings of independent and disinterested investigators (supplied with materials from autopsies made at San Francisco, and working in San Francisco, Chicago, Boston, New York, Washington, Baltimore, Philadelphia and Ann Arbor).

5. By the occurrence of a case of human plague in Ann Arbor due to an accident in the manufacture of Haffkine's prophylactic fluid with a culture of plague bacillus obtained in California.

6. By the autopsy records of 90 cases of plague, now in the possession of the United States Marine-Hospital Service and of the San Francisco Board of Health, and published in part in the *Occidental Medical Times* of San Francisco. [NOTE.—See previous issues of THE JOURNAL for many of these.—ED.]

II. The presence of plague in any community where proper restrictions are not taken to prevent its spread is an injury to the best interests of that community. Such injury is in any case avoidable by the proper co-operation of all interests involved, commercial, professional and governmental. This conference regards the habitual publication of the actual facts relative to infectious disease and preventive procedures as the surest route to popular confidence, and is one of the means best adapted to minimize the injury liable to result from the presence of such diseases.

III. The present danger to California and to the United States lies primarily in the persistence, during nearly three years, of a definite nidus of plague infection in that part of San Francisco known as Chinatown; but the gravity of this circumstance is greatly increased by the gross neglect of official duty by the State Board of Health of California and the obstructive influence of the recent Governor of California, by the failure of the city government of San Francisco to support its city board of health, and by the obstacles opposed to the operations of the U. S. Public Health Service.

IV. The conference will consider the safety of the country sufficiently assured as soon as satisfied that a competent City Board of Health of San Francisco, and a competent State Board of Health, in co-operation with the U. S. Public Health Service, will proceed under definite, harmonious and effective laws and ordinances; that they are provided with ample funds; and that they are jointly and severally in the free exercise of their lawful powers.

V. The conference expresses its conviction that the U. S. Public Health Service has deserved well of the state of California and of the country, and that it would go far toward the restoration of popular confidence if the U. S. Public Health officials were admitted to the same relations with the State Board of Health as have been steadily maintained with the City Board of Health of San Francisco.

The praise of this conference and the gratitude of the city of San Francisco are due to Drs. John M. Williamson, Vincent P. Buckley, W. B. Lewitt, Rudolph W. Baum, Louis Bazett, and Dr. McCurtley, of the City Board of Health of San Francisco. These men possess the unreserved confidence of the executive health officers of the country.

A vote of thanks is extended to General Wyman and a vote of confidence in the Public Health and Marine-Hospital Service.

CANADA.

Personal.—Dr. L. W. Cook, Truro, Nova Scotia, has gone to Newfoundland to take the practice of Dr. Herbert Smith of Buren, who will take a post-graduate course abroad.

Proposed Children's Hospital, Montreal.—It has been decided that this hospital shall be an adjunct to the Montreal General, the Royal Victoria and other hospitals of the city. This will relieve the over-taxed general hospitals and allow them to extend their spheres of usefulness, more particularly to those suffering from acute diseases.

Quebec Bad School Conditions.—At the regular meeting, January 14, of the St. Francis Medical Association, which comprises physicians of the eastern townships of the province of Quebec, Dr. Stevenson, inspector of public buildings, Coaticook, proposed a memorial to the provincial government protesting against certain prevailing conditions in the Protestant elementary schools, viz.: 1, pupils are required to take up too many subjects and their health suffers; 2, a very bad system of ventilation prevails in nearly all public school buildings he has visited in the eastern townships.

Montreal's health report for November showed 168 new cases of contagious diseases, with 26 deaths; 34 of diphtheria, with 4 deaths; 36 of scarlet fever, with 6 deaths; 28 of typhoid fever, with 8 deaths; 55 of measles, with 4 deaths; 2 of whooping cough, both fatal; 9 of chicken-pox and 3 of smallpox, no deaths. At the scarlatina and diphtheria hospital 29 patients were admitted, of whom 20 had scarlet fever and 9 diphtheria; 7 of these died. The district physicians made 606 primary and 63 secondary vaccinations. The number of deaths in Montreal during November was 484.

Vaccination by the Laity in New Brunswick.—The law in this province requires that before children are admitted to any public school they must show certificates of successful vaccination within three years preceding. Certain boards of health have required that these certificates must be signed by physicians, but the attorney-general has recently ruled that a certificate of a parent or guardian, verified by a solemn declaration, will be sufficient. This is considered to be important because it has been the habit in country sections of the province for parents to procure vaccine points and vaccinate their children themselves.

FOREIGN.

German Venereal Prophylaxis.—The first congress of the German Society for the Prevention of the Spread of Venereal Diseases will convene at Berlin March 8 to 10, 1903.

Plague Extinct at Odessa.—The *St. Petersburg Med. Woch.* announces that no new suspicious cases have occurred at Odessa since October, and the city is now declared free of the plague.

Nothnagel a Senator for Life.—Prof. Hermann Nothnagel, director of the first medical clinic at Vienna, has been appointed a member for life of the upper house of the Austrian parliament.

Germ of Hydrophobia.—Professor Sormani of the University of Pavia, Rome, is reported in the daily papers to have discovered the hydrophobia microbe, which has so long eluded absolute demonstration.

Abuse of Ether in Russia.—Our German exchanges mention that the custom of using ether for a beverage is spreading from Russia into eastern Prussia. At a recent wedding feast at Trossno a large quantity had been provided, and as it was being poured it exploded and killed 7 and injured 14 persons.

Posner a Professor.—Dr. Carl Posner, one of the proprietors and editors of the *Berliner klin. Wochenschrift*, and of the *Jahresberichte der Fortschritte der Medicin*, has been raised from the rank of privat docent to that of professor at Berlin. He is one of the leading minds in the medical press of Europe.

Scientific Instruction of Italian Police.—Professor Ottolenghi has been delivering a course of lectures with demonstrations to the police officials at Rome and Siena to instruct them in scientific means of identifying criminals, determining the nature of the crimes and other points of importance in their service.

Bureau of Medical Information at Paris.—The city council has appropriated $750 for the equipment of a bureau of information in regard to scientific matters, for the benefit of strangers. It is to be installed in some public building, the Sorbonne or the Faculté de Médecine, and officials speaking the current foreign languages will be in charge.

Individual Communion Cups.—The presidents of the medical societies in Denmark and all the high medical functionaries signed a declaration published Dec. 28, 1902, protesting against the use of the common communion cup as fraught with danger from the point of view of contagion. They recommend a special chalice with individual cups, filled in turn by a special mechanism.

Chair of Experimental Therapy Founded at Berlin.—The privat docent A. Wassermann has been appointed professor of experimental therapy, and will lecture in the Institute for Infectious Diseases, with which he has been connected as Koch's assistant since 1891. His researches on the biologic blood test,

serumtherapy and immunity have carried his name far and wide. He is now in his thirty-eighth year.

Donath the Recipient of the Craig Colony Prize.—The prize offered by the Craig Colony, Sonyea, N. Y., for the best original work on the pathology and treatment of epilepsy, has been awarded to the privat docent of neurology at Budapest, Dr. Julius Donath. The title of his work is "The Importance of Cholin in Epilepsy." Last year an Italian, Dr. C. Ceni, received the prize for his research on the serum treatment of epilepsy.

Jubilee of the Muenchener Med. Wochenschrift.—Our Munich exchange is to be congratulated on attaining its fiftieth year of efficient and dignified service to science and to the profession. The new volume is to be opened by works from the pens of its ten founders and proprietors, v. Angerer, Bäumler, Bollinger, Curschmann, v. Leube, Merkel, v. Michel, Penzoldt, v. Ranke and v. Winckel. The new heading for the title page portrays the physician in his study and at the bedside.

Increase of Ankylostomiasis in Germany.—In the Bochum district the number of cases of ankylostomiasis has increased from 286 in 1900 to 1,029 cases in 1901, with 5 deaths. Attempts to disinfect the running water in the mines have hitherto proved fruitless or have obstructed the pipes. The addition of a solution of copper vitriol seems to be the last resort, but is expensive. All sanitary precautions meet with passive resistance on the part of the miners, and the local medical press regards the outlook with apprehension.

Government Insurance Against Industrial Accidents in Sweden.—A bill has passed the Swedish parliament and been signed by the king which provides for insurance against accidents incurred in wage-earning work. The first expense, treatment, etc., is borne by the employer. After the sixtieth day an indemnity of 27 cents is paid daily during convalescence. Later the indemnity for complete loss of working capacity is 300 kronen, about $81. An official insurance bureau is to be organized to have charge of the details. Railroads, tram lines and mines are included in the list.

Centennial of the Dorpat University.—On the occasion of the celebration of its centennial the Russian university at Jurjew, better known by its former Polish name of Dorpat, conferred honorary degrees on 20 prominent medical men. The list of 5 Russian names includes, as a matter of course, Pawlow and Bechterew. Among the foreigners are E. v. Bergmann and Naunyn, who were formerly professors at Dorpat; Ziegler, Baumgarten, Waldeyer, Flechsig, Gegenbaur and v. Köllicker, in Germany; Brouardel and Cornil, in France; Lord Kelvin and Horsley, in England; G. Rezius of Stockholm, and Ramon y Cajal of Madrid. A large number of important works were also dedicated to the university on the occasion, among them Truhart's work on the pathology of the pancreas.

Suggestion for Legislation to Favor Large Families.—A French army officer and assistant director of the military School, M. Toutée, proposes a new means of endeavoring to raise the birth rate in France. He suggests that the laws of inheritance be modified so that the estate be divided in equal parts, to be awarded to children and grandchildren alike. A son of the family, for instance, under such a law, could claim not only his own share, but also an equal amount for each of his children. An only child could inherit only half of the property, the balance going to the heirs after him. He thinks that legislation along these lines would accomplish its purpose automatically and lead to the rearing of large families by the cupidity of the parents, sons and daughters of capitalists.

Opening for Physicians at Peru.—The American consul, C. V. Herdliske at Callao, the port for Lima, writes in reply to an inqury as to the prospects for physicians in Peru, that the candidate who applies for leave to practice must pass an examination in Spanish before the National Medical Board, regardless of the degrees he has obtained elsewhere. "When he has passed this examination the prospects of success seem very good. There is a large English and American colony at Lima and Callao, and the Peruvians seem to have special confidence in the American, English, German or French physicians who have settled there." The South American medical schools, however, graduate a large number of doctors every year. At Buenos Ayres alone 1,964 matriculated at the university medical school in 1901.

Third International Congress of Thalassotherapy.—The Biarritz Association has organized six international congresses of hydrology, climatology and geology and two of marine therapy. It now announces that a third international congress of marine thalassotherapy will be held at Madrid on the occasion of the approaching International Medical Congress, the date April 19 to 21. Addresses are prepared by A. Robin and M. Binet of Paris on the "Influence of a Stay at the Seashore on the Inner Phenomena of Nutrition," by Lalesque of Arcachon on the "Effects of the 'Marine Treatment from the Standpoint of the Generalization of Tuberculosis." and by Huchard and Feissinger on the "Influence of the Seashore on the Cardiovascular Apparatus." The membership fee is 10 francs, or $2.50, to be remitted to M. Raynaud, pharmacist at Biarritz. The secretary for the foreign department is Dr. Seguel, 68 boulevard Malesherbes, Paris.

Jubilee of El Siglo Medico.—Our Madrid exchange, in entering on its fiftieth year with the current number, reviews the history of medicine in Spain during the half century and cites many names of at least national fame. It describes the great change that has come over the profession of late years, dividing it into two widely separated classes, the "high speciality," the medical aristocracy, with successes and emoluments hitherto unparalleled, and the lowly members of the profession contending at every step with enemies and abuses, the machinations of charlatans, sick benefit societies, pseudo-charitable organizations, etc., with poverty and despair threatening to engulf them. "The 'promised land' is still far ahead, but with co-operation and good counsel the profession will win it at last. In this campaign the medical press must play an important rôle, as wise leadership was never needed so much as now, and the achievements and experiences of the past will spur it on to higher ideals, a continuous growth and evolution to conform to the necessities of the hour."

Prizes Offered by the Paris Academy of Medicine.—We give below the list of endowed prizes which the *Académie de Médecine* of Paris opens to the competition of the world. The lists are closed the end of February for the current year. All works must be in French or Latin. The academy had for distribution in 1898 84,000 francs, the total for 42 prizes, and in 1902 62,000 francs for 38 prizes, exclusive of the Audiffred prize. This year the prize endowed by the surplus left after the XIII International Medical Congress of Medicine, at Paris, will be placed in the hands of the executive committee of the approaching International Medical Congress at Madrid, to be awarded in a single prize.

The academy prize of 1,000 francs will be awarded in 1903 for the best work on "Means of determining the eliminating power of the kidney"; in 1904, on "Cirrhosis of the liver; clinical and experimental"; in 1905, on "Oxydases in pathology." Alvarenga, 800 francs, annual, for best work in any branch of medicine. Capuron, 1,000 francs, 1903, "Action of saline waters in general on the digestion"; 1904, "Applications of radiography to obstetrics"; 1905, "Complications of pregnancy due to lesions of tubes and appendix." Civrieux, 800 francs, 1903, "Cerebral troubles in sclerosis in patches"; 1904, "Rôle of syphilis in affections of the encephalus"; 1905, "Deliriums in epileptics." Daudet, 1,000 francs, 1903, "General medications in treatment of cancer"; 1904, "Surgical treatment of neoplasms of large intestine with exception of rectum"; 1905, "Epithelomata of the neck of branchial origin." Fairet, 700 francs, 1904, "Neurasthenia, pathogenesis and treatment." Lefèvre, 1,800 francs, 1905, "Melancholia." Louis, 3,000 francs, 1904, "Serum treatment of typhoid fever." Mège, 900 francs, 1904, "Etiology and pathogenesis of arteriosclerosis." Orfila, 6,000 francs, 1904, "Alkaloids of belladonna, hyoscyamus and datura." Portal, 600 francs, 1903, "Pathologic anatomy of salpingitis in its relation to the producing causes"; 1904, "Comparative hematologic study of variola and vaccine"; 1905, "Pathologic anatomy and pathogenesis of cancer." Pourat, 700 francs, 1903, "Microbian secretions and their physiologic action in the genesis of diseases"; 1904, "Circulation of blood in the lungs"; 1905, "Effects of mechanical actions on the morphology of the locomotor apparatus."

All articles competing for the above prizes must be anonymous and accompanied by the name and address of the author in a sealed envelope. In addition to these prizes the list below is open to MSS. or printed works:

Amussat, 1,000 francs, 1905, for best work or researches based simultaneously on anatomy and experimentation, which has realized or prepared the way for the most important progress in surgical therapeutics. Apostoli, 600 francs, annual, for best work on electrotherapy. Argenteuil, 6,800 francs, 1905, for most important progress during preceding six years in treatment of strictures of the urethra, or for best work on treatment of other affections of urinary passages. Audiffred, income of 24,000 francs, for the discovery before 1921 of a sovereign remedy for tuberculosis. Baillarger, 2,000 francs, 1904, for best work on treatment of mental diseases and organization of insane asylums. Barbier, 2,000, annual, for complete means of cure for hitherto reputed incurable affections, such as cancer, hydrophobia, epilepsy, scrofula, typhus, cholera morbus, etc. This prize may be divided. Boullard, 1,200 francs, 1904, for best work or best curative results in mental affections. Bourceret, 1,200, annual, for best work on circulation of blood. Buisson, 10,500 francs, 1904, for discoveries having for result the cure of maladies hitherto reputed incurable. Dupierris, 2,300 francs, 1904, for best work in anesthesia or on affections of urinary passages. Chevillon, 1,500, annual, for best work on treatment of cancerous affections. Clarens, 400, annual, for best work on hygiene. Desportes, 1,300 francs, annual, for best work on practical medical therapeutics and on practical and therapeutic natural history. Godard, 1,000, annual, best monograph on internal and

ternal pathology. Guzmann, income of 1,328 francs, for really effective treatment of the most common forms of organic heart disease, or prize of same amount for best work in this line. T. Herpin, 3,000 francs, annual, for best work on epilepsy and nervous diseases. Itard, 2,400 francs, 1903, for best book of practical medicine or applied therapeutics, published at least two years previously. Jacquemier, 1,700 francs, 1904, for work on some obstetric subject that has realized important progress. Labordie, 5,000 francs, annual, for author who has notably advanced the science of surgery. Larrey, 500, annual, for best work on medical statistics. Lefort, 300, 1903, for chemical study of mineral and drinking waters. Lorquet, 300, annual, for best work on mental diseases. Meynot, 2,600 francs, annual, for best work on eye and ear affections, or, exceptionally, for some great medical discovery. Monbinne, 1,500, annual, for scientific mission, medical, surgical or veterinary. Natividelle, 300, annual, for extraction of some active, definite principle of some medicament, hitherto unisolated. Perron, 3,800, 1905, for monograph "most useful to the progress of medicine." Ricord, 600, 1903 and 1905, for best work appearing in the two preceding years on venereal diseases. Saint-Lager, 1,500, 1904, for experimental reproduction of endemic goiter. Saintour, 4,400, 1904, for best work, MSS. or printed, on any branch of medicine. Stanski, 1,400, 1904, for research on epidemic diseases. Tremblay, 7,200, 1903, for best memoir on affections of the urinary passages, catarrh of the bladder and affections of the prostate in particular. Vernois, 700, annual, for best work on hygiene.

A franc equals 19½ cents.

Queries and Minor Notes.

ANONYMOUS COMMUNICATIONS will not be noticed. Queries for this column must be accompanied by the writer's name and address, but the request of the writer not to publish his name will be faithfully observed.

RUHEMANN'S URIC ACID TEST.

ST. LOUIS, Jan. 1, 1903.

To the Editor:—1. Will you please inform me where I can find the description of Ruhemann's test for uric acid; 2, also the latest theory on origin of basophile bodies in red blood corpuscles?

A. E. M.

ANS.—Ruhemann's test was published in the *Berliner klinische Wochenschrift*, Jan. 20, 1902, and an abstract of his paper was given in THE JOURNAL, March 1, p. 620, vol. xxxviii. 2. We think the majority of opinion is that these bodies, occurring as they do in lead poisoning, etc., are indications of degenerative processes, though some may hold the contrary.

DISCUSSION ON EPILEPSY.

ST. PETER, MINN., Jan. 19, 1903.

To the Editor:—On page 161 of THE JOURNAL for Jan. 17, 1903, in the last line of my remarks in closing the discussion on the Symposium on Epilepsy, in some way the word "human" has been substituted for the word "known" completely changing the meaning of the sentence.

H. A. TOMLINSON.

ARIZONA, OKLAHOMA AND INDIAN TERRITORY PRACTICE.

Jan. 13, 1903.

To the Editor:—Kindly inform me through THE JOURNAL what the requirements of Arizona, Oklahoma and Indian Territory are, also the names of the secretaries of each of the above states, with addresses.

J. C. B.

ANS.—In Arizona an examination is required, the secretary of the board is Dr. Wm. Duffield, Phœnix. In Oklahoma, registration is made on a diploma approved by the board, the president is Dr. E. E. Cowdrick, Enid, to whom application should be made. In Indian Territory the laws differ in the jurisdictions of the various nations and we can not give the data required. We hope in a very short time to publish a revision of the pamphlet issued a year ago, giving the laws of all the states and territories corrected to the first of the year. Copies may be had for 25 cents.

GONORRHEA CURED OR LATENT?

January 18, 1903.

To the Editor:—I wish your advice on the following case: Patient contracted specific urethritis (for first time) three and one-half years ago. He used protargol (1 to 2 per cent. solution) locally for two months and a 0.5 per cent. solution of copper sulphate. He was apparently cured for two years, although there was a constant moisture of the urethra, but never during that time a discharge. For one year there has been a clear and sometimes milky discharge, but not profuse. In the morning a minute drop can be squeezed from the urethra. There are practically no subjective symptoms. The patient has phosphaturia and has noticed that the discharge is more perceptible when the urine is loaded with phosphates. Six bacteriologic examinations, two of the urine, two of the seminal fluid and two of the discharge, by different bacteriologists, were negative for gonococci. Two urethroscopic examinations show no granular urethritis. Irrigations of permanganate of potash and weak silver nitrate solutions gave no apparent benefit. He never had any complication and positively has had no secondary infection. The patient wishes to marry within a few months and may have to. Would you advise him to marry without danger of infection? What treatment would you advise?

ANS.—It is impossible to say whether there is latent gonorrhea. Any one who advises as to that point takes on himself a very grave responsibility. We should advise more careful examinations and great caution as to the advice you give him. We can not do better than to call your attention to page 239 of this issue, where Drs. Anthony and Campbell speak on this point.

Correspondence.

Method of Reducing Strength of Solutions.

BALTIMORE, Jan. 16, 1903.

To the Editor:—By accident, a few years ago, I discovered this simple but accurate method of reducing the strength of solutions, and finding it so useful in my special line, viz., throat and nose work, I hope you will publish it and that it may prove of value to some fellow practitioner. It is as follows:

Of the original solution take a number of parts equal to the percentage to which it is desired to reduce and thereto add a sufficient number of parts of the diluting substance (as of water) so that the sum of the two will be equal to the percentage of the original solution.

As, for example, to reduce a 10 per cent. solution to a 4 per cent. solution: Take 4 parts of the 10 per cent. solution and add thereto 6 parts of water, and so obtain the desired 4 per cent. solution. If I need only a small quantity of a solution I use a medicine dropper or pipette and measure by drops. To reduce a 5 per cent. solution to 1½ per cent. solution, simply double the 5 and the 1½ and I have 10 and 3, and taking 3 drops of the 5 per cent. solution and adding 7 drops of water thereto I have a 1½ per cent. solution.

HUGHLETT HARDCASTLE.

Dr. Croftan's Iodin Starch Test for Adrenal Extract.

CINCINNATI, Jan. 15, 1903.

To the Editor:—In a recent number of THE JOURNAL (Jan. 10, 1903, p. 91) Dr. Alfred C. Croftan has published a series of tests said to be characteristic of adrenal tissue or extract, by means of which he proposes to differentiate adrenal tissue and hypernephromata.

One of the most striking and constant of these tests is described as "The Power to Decolorize Iodin-Starch Solution." The test is made in the following manner:

Equal portions of starch solution having been distributed in several test tubes, hypernephroma extract was added to one-half of them, and then one drop of an alcoholic iodin solution was added to each. Those tubes that contained no hypernephroma extract immediately turned blue and remained blue, whereas those tubes that contained hypernephroma extract turned blue for an instant only and became immediately decolorized.

It seemed to the writer to be important that this test be applied to other extracts, and the following extracts of tissues which were at hand were subjected to this test. They all gave the Croftan reaction in all its characteristics; that is, the blue iodin starch solution was decolorized.

The following is a list of extracts tested: Thyroid (P. D. & Co.), thymus (Armour), extract of meat (Liebig), pepsin (Fairchild), and pancreatic extract (Dry).

S. P. KRAMER, M.D.

Marriages.

ROBERT B. LEES, M.D., to Miss Clementine Denhart, both of White, S. D.

ALBERT W. MOORE, M.D., to Miss Helen Hough, both of Bristol, Ill., January 1.

STELLA B. JONES, M.D., to H. C. Nelson, both of Oshkosh, Wis., Dec. 11, 1902.

WILLIAM E. WELLS, M.D., to Miss Cora Stubbs, both of Tampa, Fla., January 7.

FRENCH A. SMITH, M.D., to Miss Bertha P. McCall, both of Mullins, S. C., January 7.

LOUIS STORROW GREEN, M.D., to Miss Louise Packwood Burke, both of Alexandria, Va., January 7.

VINCENT J. COHENOUR, M.D., Joliet, Ill., to Miss Myrtle Belle Harbour of Rosemond, Ill., January 7.

E. S. ARNOLD, M.D., Everett, Mo., to Miss Emma Watts of Belton, Mo., at Harrisonville, Mo., January 6.

FREDERICK RUSSELL HUXLEY, M.D., Faribault, Minn., to Miss Ada Daniels of Minneapolis, Minn., January 8.

REYNALDO J. FITZGERALD, M.D., Minneapolis, Minn., to Miss Eleanor Bradley of Aberdeen, S. D., January 8.

CLAUDE G. BURGESS, M.D., Northville, Mich., to Miss Sarah Eliza Penniman of Plymouth, Mich., January 7.

STEPHEN VICTOR BALDERSTON, M.D., Evanston, Ill., to Miss Elizabeth Thompson of Old Point Comfort, Va., January 5.

Deaths.

William Weir Hester, M.D. Louisville, Ky., 1858; Jefferson Medical College, Philadelphia, 1873; lieutenant-colonel of the Forty-Eighth Kentucky Volunteer Mounted Infantry in the Civil War; a member of the American Medical Association; assistant physician at the State Hospital for the Insane, Indianapolis, and at the Illinois Southern Hospital for the Insane, Anna; since 1890 a practitioner of Chicago, died at his home in that city, July 18, 1902, aged 67.

Oliver W. Weeks, M.D. Cincinnati College of Medicine and Surgery, 1875, a veteran of the Civil War, formerly surgeon-general of the Grand Army of the Republic; sometime president of the Marion County (Ohio) Medical Society, a member of, and earnest worker in the Ohio State Medical Society and the American Medical Association, died at his home in Marion, Ohio, from pneumonia, January 11, aged 61.

Robert S. Wallis, M.D. Missouri Medical College, St. Louis, 1854; Jefferson Medical College, Philadelphia, 1861; surgeon in Confederate Army during the Civil War; died suddenly on a train at Palestine, Texas, while en route to his home in Rockdale, Texas.

S. Evaline Bailey, M.D. State University of Iowa, College of Homeopathic Medicine, Iowa City, 1883, died at her home in San Diego, Cal., Dec. 30, 1902, two days after an accidental fall, in which her hip was fractured, aged 55.

Samuel Alexander Work, M.D. University of Michigan, Ann Arbor, 1883, died from heart disease and dropsy at his home in Vandalia, Mich., January 6, aged 60. He was a member of the American Medical Association.

William Mote, M.D. Medical College of Ohio, Cincinnati, 1856, died suddenly from heart disease at his home at Hog Point, north of Lafayette, Ind., January 9, aged about 70.

Watkins Warren, M.D. Medical College of Virginia, Richmond, 1860, a retired physician of Mount Vernon, Ill., died at Thomasville, Ga., January 2, after an illness of a week.

Bushrod W. James, M.D. Hahnemann Medical College, Philadelphia, 1857, died at his residence in Philadelphia, January 6, from an anemia, after a long illness, aged 66.

N. L. Van Sandt, M.D. Eclectic Medical Institute, Cincinnati, 1850, died at his home in Clarinda, Iowa, January 5, from paralysis, after an invalidism of a year, aged 77.

W. Frank Ross, M.D. College of Physicians and Surgeons, Baltimore, 1881, died at his home in Knoxville from Bright's disease, January 6, after a brief illness, aged 63.

Francis M. Davis, M.D. University of Maryland, Baltimore, 1856, died at his home in Bedington, W. Va., Dec. 28, 1902, from dropsy, after a long illness, aged 70.

William W. Misner, M.D. Hahnemann Medical College, Chicago, 1883, died at Tacoma, Wash., January 3, two weeks after an operation for appendicitis, aged 48.

George E. Shuey, M.D. Medical College of Indiana, Indianapolis, 1882, was burned to death, January 8, at his boarding place in Medora, Ind., aged about 40.

William G. Thomas, M.R.C.P. England, 1868, died suddenly at his home in Waukesha, Wis., presumably from heart disease, January 10, aged 65.

Charles W. Sibley, M.D. Bellevue Hospital Medical College, New York, 1877, died at his home in Fairfield, Ill., from Bright's disease, January 13.

James H. Auld, M.D. Rush Medical College, Chicago, 1883, died from pneumonia at his home in Lincoln, Neb., January 6, after an illness of ten days.

Rachel F. Reid, M.D. Ohio Eclectic Medical College, 1857, died at his home in Pasadena, Cal., from pneumonia, after an illness of six days, aged 77.

James E. Helm, M.D. Louisville Medical College, 1882, died at his home in Louisville, Ky., January 12, from bronchitis, after a long illness.

David H. Reed, M.D. University of Buffalo, N. Y., 1883, died at his home in Remsen, N. Y., January 9, after a long illness, aged 48.

Cornelius S. Smith, M.D. Pennsylvania Medical College, Philadelphia, 1850, died at Fort Wayne, Ind., Dec. 29, 1902, aged 82.

William H. Bowles, M.D., 1868, died at his home in Lane's Prairie, Mo., January 5, from pneumonia, after a short illness, aged 85.

William J. O'Connell, M.D., mayor of Mingo Junction, Ohio, died suddenly at his home in that place, January 6.

Honore Noel, M.D., one of the oldest practitioners of Maine, died at his home in Waterville, January 11, aged 74.

Alexander F. Bueren, M.D. University of Louisville (Ky.), 1874, died, January 7, at his home in Louisville, aged 53.

Eugene White, M.D. University of Tennessee, Nashville, died at his home near Lebanon, Tenn., aged 36.

James C. Fleming, M.D. Cleveland Medical College, 1867, died recently at his home in Carlisle, Ohio.

John N. Lowe, M.D. New York University, 1862, died at his home in Milford, N. J., aged 78.

Deaths Abroad.

Dr. F. Occhini, professor of clinical medicine at Rome.——**Dr. Max Schede,** professor of surgery at Bonn, in his 60th year.——**Dr. Zaayer,** professor of anatomy at Leyden, and author of various works on the architecture of the bones, "Scaphocephalous Skulls," "High Origin of Arteria Profunda Femoris," etc.——**Dr. O. Rapin,** professor of obstetrics at Lausanne.——**Dr. M. G. Aragon,** professor of hygiene, zootechnics, etc., at Mexico, Dec. 12, 1902, aged 66. To his efforts Mexico owes the establishment of veterinary medicine on a scientific basis and the foundation of a special journal.——**Dr. I. Herrnheiser,** privat docent of ophthalmology at Prague, and editor of the *Prager Med. Woch.*

Dr. Hans Rabl, a prominent physician of Vienna, one of the circle of medical men during Vienna's most brilliant period. He was born in 1830, and devoted many years to practice in the watering place, Bad Hall, which became the center of medical and surgical achievement in that part of Europe. He was the first to perform a successful ovariotomy in either Germany or Austria, and from his wide experience with scrofula and lues published a number of important works. Among the latest are some on the influence of the dwelling place on the morbidity and mortality of tuberculosis.

Book Notices.

THE INTERNATIONAL TEXT-BOOK OF SURGERY. In Two Volumes. By American and British Authors. Edited by J. Collins Warren, M.D., LL.D., F.R.C.S. (Hon.), Professor of Surgery, Harvard Medical School; and A. Pearce Gould, M. S., F.R.C.S., of London, England. Second Edition, Thoroughly Revised and Enlarged. Vol. I. General and Operative Surgery. Royal Octavo of 965 pages, with 461 Illustrations, and 9 Full-paged Colored Lithographic Plates. Vol. II. Special or Regional Surgery. Royal Octavo of 1122 Pages, with 499 Illustrations, and 8 Full-Paged Colored Lithographic Plates. Cloth. Price, $5.00 net. Philadelphia and London: W. B. Saunders & Co. 1902.

The first edition of this work appeared two years ago, and was fully reviewed in these columns.

In this, the second edition, we notice a number of changes and additions, which add considerably to the value of the work. Vol. I has been enlarged by the addition of 18 new pages and several new illustrations. Among the additions to this volume may be mentioned the use of pure carbolic acid and alcohol in the disinfection of wounds and septic cavities, the carbolic acid treatment of tetanus, the use of gelatin in the treatment of certain hemorrhages, the modern treatment of wounds of the head, etc. Intraspinal cocainization is described and properly condemned, except, perhaps, under special conditions. The chapter on diseases of the lymph system has been entirely rewritten and materially improved. Attention is particularly directed to the recent work done on splenic anemia. We fail to find any reference to cytodiagnosis, which has opened up

such an interesting field in the diagnosis of diseases of the serous membranes. Vol. II has been enlarged by the addition of 55 pages. Of the new matter may be mentioned Brophy's operation for cleft-palate and Edebohl's decortication of the kidneys in Bright's disease, but the statement that "even patients far advanced in the disease, with cardiac hypertrophy and uremic symptoms have been much benefited," should be accepted with considerable hesitation as this is yet far from being proven. The use of the *x*-ray in the treatment of diseases of the skin has been very well set forth, also the peculiarities of the so-called *x*-ray burns. We fail to find any mention of Keen's method of laryngectomy for carcinoma of the larynx; also of Abbe String and Dunham's excellent and ingenious modification of this operation in the treatment of strictures of the esophagus. Under surgery of the stomach and intestines there is no reference to Finney's operation on the pylorus, nor to the Connell suture, etc. On the whole, however, the subjects have been brought well down to date, and the volumes make one of the best works on surgery we have.

NOTHNAGEL'S PRACTICE OF MEDICINE: American Edition. Diseases of the Bronchi. By Dr. F. A. Hoffmann, of Leipsic. Diseases of the Pleura. By Dr. O. Rosenbach, of Berlin. Pneumonia. By Dr. F. Aufrecht, of Magdeburg. Edited, with Additions, by John H. Musser, M.D., Professor of Clinical Medicine, University of Pennsylvania. Seven Full-Page Colored Lithographic Plates. Pp. 1030. Cloth. Price, $5.00 net. Philadelphia and London: W. B. Saunders & Co. 1902.

This, the fourth, volume of the American edition of Nothnagel's Practice keeps up the reputation which the previous volumes of this excellent work have made. It contains exhaustive monographs on the bronchi and emphysema and atelectasis by Hoffmann of Leipsic; in inflammation of the lungs by Aufrecht of Magdeburg-Altstadt; and on diseases of the pleura by Rosenbach of Breslau. It is edited by Dr. John H. Musser of Philadelphia. These monographs in the original hold an enviable place in German medical literature, each one being exhaustive, complete and authoritative and written by men specially fitted for the work. But the American edition is not only a reproduction in English, it is all of this and more, for the American editor has added much of value not included in the original and he has brought every part thoroughly up to date. This includes recent additions to our knowledge of the anatomy and physiology of the bronchi; on the pathology, bacteriology and treatment of bronchitis, etc. In fact, there are evidences all through the book showing that the editor has made use of the most recent literature. While the book is a large one—over a thousand pages—there is no evidence of padding; on the other hand, it is concisely written, and the additions and comments made by the editor are especially clear, short and to the point. The bibliography following each part is apparently complete; it is certainly valuable. The literature up to and including the first half of the current year, 1902, is recorded. Altogether the book is without doubt the most scientific, complete and up-to-date work in the English language on the diseases to which it is devoted.

THE CHEMISTRY OF THE TERPENES. By F. Heusler, Ph.D., Privatdocent of Chemistry in the University of Bonn. Authorized Translation by Francis J. Pond, M.A., Ph.D., Assistant Professor in the Pennsylvania State College. Carefully Revised, Enlarged and Corrected. Cloth. Pp. 457. Price, $4.00 net. Philadelphia: P. Blakiston's Son & Co. 1902.

The production of a good English translation of Heusler's book on the terpenes will be welcomed by many English-speaking chemists, and the fact that in the translation the rapidly expanding subject matter has been brought up to date will, of course, make this edition more valuable than the original. Heusler's work was originally published as a part of a "Handwörterbuch" of chemistry, with the purpose of collecting the scattered material of this important and interesting branch of organic chemistry. It consists, therefore, of an introductory chapter with general considerations, followed by a classification and description of the members of both the terpenes and the closely related compounds. While probably as much space as is warranted is given to the matter of properties and preparation of the innumerable derivatives, the worker will undoubtedly find its greatest use as a classified and intelligent directory to the original papers from which it is compiled, and abundant provision for this is made in the references as quoted. The translator has made most acceptable English of the original, in addition to adding the newer material without wedging it conspicuously into the text.

Medical Organization.

As Oregon Understands It.

We quote as follows from the October number of the *Medical Sentinel:*

OUR NEW CONSTITUTION.

"If progress consists, as we have been led to believe, in adjustment to a continually changing environment, the Oregon State Medical Association took a long step in advance at its recent meeting. First, in the adoption of the model constitution suggested by a committee of the A. M. A. for state organizations, thus placing itself in affiliation with the majority of all the states in the Union and in step with the great, national march of medical progress. It is true that in doing so it incidentally legislated out of existence its own former membership and self, but this defect will be readily remedied before the next meeting, and we shall have the great advantage of a clean start all round on a broader basis. A committee has been left in charge of the accouchement and will no doubt deliver safely. The change is one which makes for breadth of view and harmony of effort in every direction. It adequately recognizes for the first time in the history of the Association the essential solidarity of the medical profession in spite of the sects and cliques into which it may have allowed itself to become divided.

ALL THE WORLD IS OUR PARISH.

"The note of a broad, manly and tolerant catholicity is most clearly struck in the language of the section on membership, of the newly-adopted constitution:

It shall promote friendly intercourse between physicians of the same locality, and shall continue these efforts *until every physician, in every county in the state, who can be made reputable has been brought under medical society influence.*

"This means, of course, the ignoring of the individual likes and dislikes, to which the medical profession is so peculiarly and painfully prone, the recognition that all who are laboring for the health, the sanitary education and the welfare of the community, have a common ground upon which they can unite, in spite of personal differences of opinion or even of ethics. Just as there are exceedingly few men in whom the good does not far outweigh the bad, there are very few, indeed, of our professional brethren with whom our points of agreement are not at least three times as numerous and important as our points of disagreement. Nor need we fear that by such broadening of our platform have we in any way weakened our principles or lowered our standards. On the contrary, we believe that they will be strengthened thereby. Any really representative gathering of men practicing according to the Code of Ethics of the American Medical Association which, after all, is simply the code of the honest man and the gentleman, any gathering, to become a member of which 'full and ample notice and opportunity has been given to every such physician in the county,' need ever be a subject of doubt as to its overwhelming majority in favor of the right, the honorable and the courteous thing in any emergency that may arise. The competent, scientific and honorable element will surely dominate and benefit the less desirable members, if any such there be, while the mischief makers will find themselves with far less power for harm inside such an organization than they had outside of it. As Marcus Aurelius long ago pointed out, 'No man can injure us save by our own consent,' and the man who was injured most by the petty dislikes and jealousies, nay even the righteous indignation and disapproval, which have made the 'differences' of doctors a by-word and a reproach in the mouths of the laity from time immemorial, was not the object of these feelings but the man who harbored them.

PERSONAL PREFERENCES BARRED.

"As a necessary corollary it seems to us, of this more strictly professional, scientific and humanitarian basis of unity, came the second marked change in the organic law of the Association, that of ruling out the principle of the black-ball. From par-

ticipation in the great work of professional and humanitarian progress no man must be debarred except for cause and by the judgment of his peers. The secret black-ball, with its utter absence of responsibility, the impossibility of ascertaining its source, while eminently proper in and well adapted to the needs of a social club, where the first requisite of all is good fellowship, 'clubability,' and the exclusion of any individual who would become a jarring note in the harmony, is entirely out of place in broad, representative, public organizations. Any man who is considered by the majority of his peers to be fit and worthy to lend a hand in the great work, is certainly entitled to that privilege, even though there be, in the body with which he wishes to unite, a dozen men who happen to dislike him on personal grounds, however valid these grounds may seem to the individuals holding them. A man who will allow purely personal considerations to interfere in this way with his business relationships, his political affinities, his religious or philanthropic affiliations would speedily find himself either in an exclusive organization of one, or making a successful failure at ever point. Yet this is, in our judgment, what the medical profession has done far too extensively in the past; and is one of the secrets of the small amount of consideration which it can demand as a right in either politics, business or philanthropic affairs. But it is not, thank Heaven, a necessary part of our mental make-up, as our enemies have cheerfully assumed, and we propose to be rid of it in the future.

THE FREEDOM OF SCIENCE.

"The second necessary corollary of this broad and impersonal position is embodied in the clause of our new constitution making eligible to membership every reputable and legally qualified physician, practicing according to the Code of Ethics of the American Medical Association, *who will agree not to practice sectarian medicine.* This, which is likely to be bitterly bemoaned as another lowering of our professional standards, is really nothing more than the incorporation into our Constitution of what has long been our unwritten law and avowed belief. We have all along contended that there was no need for any school of medicine terming itself 'eclectic,' as we, the regulars, were eclectic in every true sense of the term, choosing from whatever source, everything which had been proved to be good. Our issue with the homeopathic division lay, not in the fact that we did not believe in the principle of 'similia,' as such, for we have never been 'allopaths' except in the mouths of our enemies. On the contrary, we just as promptly and emphatically disavow the principle of *'dissimilia,'* for what we object to is merely the holding of any single, exclusive and universally applicable principle in the treatment of all diseases. We would rule out any man who called himself an 'allopath' just as promptly as one who called himself a homeopath. Our practice is based solely on the discoveries of science, checked by the experience of the past, and any man of average intelligence and sufficient training to pass a state board of examiners is at liberty and welcome to use any remedies or methods of treatment, which commend themselves to his judgment. If his views are mistaken he will be the severest sufferer by them and we can leave the question of who is right, as the spirit of true agnosticism has taught us must everywhere be done, to the slow but sure arbitrament of time. And it will do us no harm to remember, as an excellent antidote for any Pharisaical tendencies, that the exclusive principle of *similia* is no new and peculiar thing or method, but a survival of the equally irrational and exclusive principles of treatment firmly believed in by our own direct ancestors of no very recent date. The briefest study of the doctrine of signatures, the principle of contraries, the Brunonian system and the antiphlogistic methods of treatment, which persisted to within even the memory of most of us, ought to diffuse an atmosphere of sympathy around our feelings toward our single-principle brethren."

St. Francis County (Ark.) Medical Society.

On Dec. 5, 1902, the physicians of St. Francis County, Ark., organized a medical society at Forrest City, known as the St. Francis County Medical Society, with Dr. James D. McKnight as president, and Dr. James O. Rush, secretary, both of Forrest City.

Warren County (Ohio) Medical Society.

At the regular meeting of this society the committee on constitution reported favorably on the reorganization movement but asked to be retained till the next regular meeting, when they will make a fuller report. The society gave a banquet in honor of Drs. John M. Withrow and Brooks F. Beebe, Cincinnati, and Dr. Horace Bonner, Dayton.

Delta County (Mich.) Medical Society.

This society was reorganized Nov. 25, 1903, along the lines adopted by the American Medical Association. Drs. Theodore A. Felch, Ishpeming, councilor for the Twelfth District; Beverly D. Hanson, Sault Ste. Marie, secretary of the State Board of Registration,, and Norman Kerr, Chicago, spoke in favor of the plan. The following officers were elected: Dr. David N. Kee, Gladstone, president; Dr. Albert L. Laing, Rapid River, vice-president; Dr. Harry W. Long, Escanaba, secretary, and Dr. William Elliott, Escanaba, treasurer.

Omaha-Douglas County (Neb.) Medical Society.

This society, in annual session, elected as officers for 1903 the following: President, Dr. William H. Christie; vice-presidents, Drs. H. P. Hamilton and F. W. Faulk; secretary, Dr. J. M. Aikin; treasurer, Dr. Millard Langfeld, and board of censors, Drs. Benjamin F. Crummer, Andrew B. Somers, and Samuel K. Spalding. The society is reorganized on the American Medical Association plan. Sixteen new applications were filed with the secretary. A banquet followed at which Drs. Harry M. McClanahan and Byron B. Davis made clear to all present the plan and advantages of reorganization.

Societies.

Hickman County (Tenn.) Medical Society.—At the annual meeting, held Dec. 1, 1902, Dr. Charles V. Stephenson, Ætna, was elected president; Dr. Andrew Norris, Centreville, vice-president, and Dr. W. I. Pace, Tom's Creek, secretary.

Indianapolis (Ind.) Medical Society.—At the annual meeting of this society, January 6, Dr. William E. Jeffries was elected president; Dr. John F. Barnhill, vice-president; Dr. Theodore Potter, secretary, and Dr. John T. Scott, treasurer.

German Medical Society (Cleveland).—At the annual meeting of this society, January 8, Dr. Samuel Riegelhaupt was elected president; Dr. Walter G. Stern, vice-president; Dr. Morits Lowenthal, secretary, and Dr. Isador J. Propper, treasurer.

Johnson County (Iowa) Medical Society.—At its annual meeting in Iowa City, January 6, Dr. Elmer F. Clapp was elected president; Dr. Lola D. Clark-Mighell, vice-president, and Dr. Joseph A. Valenta, secretary and treasurer, all of Iowa City.

Dayton (Ohio) Academy of Medicine.—Dr. Thomas E. Marshall was elected president; Dr. William A. Ewing, vice-president; Dr. Fred C. Weaver, secretary, and Dr. William A. Burns, treasurer of the academy, at its annual meeting January 9.

Garrard County (Ky.) Medical Society.—At the annual meeting of this society at Lancaster, Dr. William G. Casenburg, Point Lick, was elected president; Dr. William Burnette, Lancaster, vice-president, and Dr. Hugh M. Grant, Lancaster, secretary and treasurer.

Los Angeles (East Side) Medical Association.—This association, at its annual meeting, Dec. 29, 1902, elected Dr. John M. Armstrong, president; Dr. Martha P. T. Wagstaff, vice-president; Dr. Robert C. Dundas, secretary, and Dr. Harry B. Fasig, treasurer.

Philadelphia Obstetrical Society.—At the annual election of this society, January 2, the following officers were elected: President, Dr. John M. Fisher; vice-presidents, Drs. Richard C. Norris and Wilmer Krusen; secretary, Dr. Frank C. Hammond, and treasurer, Dr. John W. West.

City Hospital (St. Louis) Alumni Association.—At the annual meeting and dinner of this association, held January 8, Dr. Horace W. Soper was elected president; Dr. J. C. Folk, vice-president; Dr. Rutherford B. H. Gradwohl, secretary, and Dr. Hudson Talbott, treasurer, all of St. Louis.

Clinton County (Iowa) Medical Society.—This society held its annual meeting at Clinton, January 6, and elected Dr.

Frank A. Hohenschuh, president; Peter S. Kaadt, vice-president; Dr. Harry R. Reynolds, secretary and treasurer, and Christian Jonsson, librarian, all of Clinton.

Jackson County (Mich.) Medical Society.—This society, at its second annual meeting, held in Jackson, elected officers as follows: President, Dr. Nathan H. Williams; vice-president, Dr. Delbert E. Robinson; secretary, Dr. R. Grace, Hendricks, and treasurer, Dr. Frederick W. Rogers, all of Jackson.

Howard County (Mo.) Medical Society.—At the annual meeting of this society, held at Fayette, Dr. Charles H. Lee, Fayette, was elected president; Dr. Vaughan Q. Bonham, New Franklin, first vice-president; Dr. Joel Y. Hume. Armstrong, second vice-president, and Dr. C. W. Watts, Fayette, secretary and treasurer.

Hartford (Conn.) Medical Society.—At the annual meeting of this society, held January 5, Dr. William T. Bacon was elected president; Dr. John O'Flaherty, vice-president; Dr. William G. Craig, secretary; Dr. Arthur D. Hayes, assistant secretary; Dr. George K. Welch, treasurer, and Dr. Walter R. Steiner, librarian.

Ingham County (Mich.) Medical Society.—At the annual meeting of this society in Lansing, January 8, the officers elected at the meeting for organization, Nov. 13, 1902, were re-elected as follows: Dr. Sydney H. Culver, Mason, president; Dr. Harry H. Haze, Lansing, vice-president, and Dr. L. Anna Ballard, Lansing, secretary and treasurer.

Missouri State Medical Association.—The date of the annual meeting of this society at Excelsior Springs has been changed from May 19 to 21 to April 21 to 23. Drs. E. Lowrey, J. J. Gaines, W. S. Wallace and A. C. O'Kell, Excelsior Springs, announce that they will be glad to make arrangements for board and accommodation for visiting members who will apply to them.

Medical Society of the District of Columbia.—At the stated meeting of this society, held January 5, the following officers were elected: Dr. George M. Kober, president; Drs. D. Kerfoot Shute, and Dr. Benjamin G. Pool, vice-presidents; Dr. Charles W. Franzoni, treasurer; Dr. Francis P. Morgan, recording secretary, and Dr. Thomas C. Smith, corresponding secretary.

Gulf Coast (Miss.) Medical Society.—The annual meeting of this society was held at Scranton, Miss., January 7. A new constitution and by-laws were adopted and Dr. Benjamin F. Duke, Pascagoula, was elected president; Dr. M. Lyle Talbot, Biloxi, vice-president; Dr. Jacob N. Rape, Moss Point, secretary and treasurer, and Dr. Joseph A. Tabor, Scranton, corresponding secretary.

Freeborn County (Minn.) Medical Society.—At a meeting of the physicians of the county, at Albert Lea, January 9, a county society was organized, with the following officers: President, Dr. Albert C. Wedge, Albert Lea; vice-president, Dr. William L. Palmer, Glenville; secretary, Dr. Hamilton H. Wilcox, Albert Lea, and treasurer, Dr. John P. Von Berg. The society also adopted a fee-bill.

Alpha Kappa Kappa Fraternity.—The eighth annual convention of this body was held in Chicago, January 2. Dr. George Cook, Concord, N. H., was elected president; Dr. John I. French, Boston, vice-president; Dr. Edward L. Heintz, Chicago, secretary, and Dr. E. R. Pfarre, New York, treasurer. At the annual banquet tendered by the three local chapters, Dr. Archibald Church presided as toastmaster.

Somerville (Mass.) Medical Society.—The annual meeting of this society took place at the Somerville Hospital January 6. The following officers were elected: President, Dr. Frederick G. Smith; vice-president, Dr. Douglas S. Flewelling, and secretary and treasurer, Dr. Charles E. Mongan. Resolutions of sympathy were passed on the death of Dr. John F. Couch, a former president of this society.

Kansas State Medical Association, Third District Auxiliary.—The organization of a district auxiliary to the state association was effected at Concordia, January 9. The following officers were elected: President, Dr. William F. Sawhill, Concordia; vice-president, Dr. Josephus P. Stewart, Clay Center; secretary, Dr. Michael R. Spessard, Glen Elder, and Treasurer, Dr. Frank M. Daily, Beloit.

Clark County (Ohio) Medical Society.—At the annual meeting of this society in Springfield, January 5, the following officers were elected: President, Dr. John E. Myers; vice-presidents, Drs. Clarence S. Ramsey and Theodore F. Bliss; secretary, Dr. Charles L. Minor; treasurer, Dr. Chester B. Bliss, and executive committee, Drs. Joseph A. Link, Clinton M. Hiestand and Charles W. Evans, all of Springfield. Dr. Bonner of Dayton, councilor for the district, addressed the society on the benefits to be derived from reorganization.

Orleans Parish (La.) Medical Society.—At the annual meeting of this society, January 10, in New Orleans, the following officers were installed: President, Dr. Edwin J. Graner; vice-presidents, Drs. Jacob A. Storck, Oliver L. Pothier and O. Joachim; secretary, Dr. Samuel D. Clark; treasurer, Dr. William H. Seemann; librarian, Dr. Homer Dupuy, and additional members of board of directors, Drs. Hermann B. Gessner, John Callan and Henry D. Bruns. Mr. Charles Rosen, the annual orator, spoke on "The Duty of Medical Men as Medicolegal Experts."

Johnson County (Mo.) Medical Society.—The physicians of Johnson County met at Warrensburg and effected an organization, Dec. 12, 1002. The following officers were elected: Dr. James I. Anderson, Warrensburg, president; Drs. Leander F. Murray, Holden, and Milton P. Shy, Knobnoster, vice-presidents; Dr. Edwin H. Gilbert, Warrensburg, secretary, and Dr. J. Alfred Adcock, Warrensburg, treasurer. Dr. M. P. Overholzer, Harrisonville, vice-president of the Medical Association of Missouri, addressed the society on "Organization of the Medical Profession."

EGYPTIAN MEDICAL CONGRESS.

First Congress, held in Cairo, Egypt, Dec. 18 to 24, 1902.
(From our Special Correspondent.)

The first Egyptian Medical Congress, in point of attendance, exceeded all expectations, more than 600 medical men taking part. Germany, Austria, Belgium, Switzerland, France, Italy, Russia, Persia, Great Britain, and the United States were represented. The congress was opened informally on the evening of December 18, by a reception given to the delegates at the Continental Hotel.

The Addresses of Welcome.

On the morning of December 19 the congress was formally opened by the Khedive, at the Khedival Opera House. He was accompanied by all his ministers. The stage was occupied by the delegates who represented countries. The Khedive made a short address, in which he welcomed the delegates to Egypt and expressed the opinion that no doubt much good would result from the scientific sessions. He was followed by S. E. Ibrahim Pacha Hassan, the president of the congress, who stated that they felt very much flattered that so many scientific men should come to their ancient country to discuss with them scientific subjects. They would do all in their power to show that their welcome was cordial and sincere. The following men replied in the order named: For Germany, Dr. Nolda; Austria, Professor Nothnagel; Belgium, Dr. Eid; United States, Major Gorgas, U. S. A.; France, Professor Bouchard; Great Britain, Dr. Reginald Harrison; Hungary, Prof. Karl Hoor; Italy, Professor Maragliano; Persia, Mirza Mohamed M. Khan; Russia, Prof. Pawloff; Switzerland, Professor Eternod. Professor Bouchard made the address on medicine, after which the meeting closed.

The Social Features.

In the afternoon the Khedive received the delegates at the Abdine Palace. He welcomed each one personally, and took occasion thereby to express his thanks to the country which he represented, for the kindness in sending him. On the evening of December 19 an Arab open-air fête was given at the pyramids. Special street cars were provided for the guests to make this journey of twelve miles. The fête consisted of exhibitions of Arab horsemanship, native dances, the illumination of the sphinx by various colored lights, etc. This was followed by a midnight lunch.

Arrangements of the Scientific Sessions.

On the morning of December 20 the scientific sessions were commenced. The work of the congress was divided into three sections, viz.: Internal Pathology, Surgery and Ophthalmology. The meetings were held at the Cairo School of Medicine. The buildings were admirably suited for the purpose. The Students' Club and the museums of the college were also placed at the service of the delegates. The sections met regularly from 9 to 12 a. m. and from 3 to 6 p. m. The hour from 12 to 1 was generally used for exhibiting clinical cases. Many cases of pellagra, leprosy, etc., were shown.

Cairo in many respects is an ideal place for holding a meeting to discuss tropical diseases. Many of the men were able to further demonstrate their papers by showing the cases clinically. Many of the diseases discussed are practically only found in Egypt as well as competent men to discuss them. There is also a certain amount of sentiment about Egypt as a meeting place. It was here that during the middle ages the spark of medicine was kept alive so that in later years it was available for kindling the brilliant light with which medicine shines to-day. We know that here over four thousand years ago the sulphur springs at Helwan, in the neighborhood of Cairo, were used for medicinal purposes.

On Sunday afternoon, December 21, the delegates were invited on board the Khedive's private yachts, which conveyed them to the barrage and his private gardens. The trip down the Nile was very much enjoyed. After the visitors had been given an opportunity to see the bridge and roam about the gardens, a lunch was served, after which the guests were taken back to Cairo by special trains.

On Monday evening, December 22, an Arab fête was given at the Maison Matatia. The invitations were extended by the president of the congress, S. E. Ibrahim Pacha, and Madame Pacha, and the secretary, Dr. Voronoff, and Madame Voronoff. The entertainment consisted of native chants and dances, snake charming, prestidigitateurs, etc. It was much enjoyed owing to its novelty. After the performance a sumptuous repast was provided.

The Delegates.

France had the largest delegation present, being represented by about 60 delegates. Italy came next in the point of numbers. Germany sent no official delegate; a number of Germans sojourning in Cairo temporarily represented her. Dr. Reginald Harrison, who represented the College of Physicians and Surgeons of Great Britain, has also another important mission here. He is investigating the extent of the course in medicine given at the Cairo School of Medicine, for the purpose of ascertaining how much value can be attached in England to a diploma granted here. The United States was represented by Major Gorgas of the United States Army, Assistant Surgeon Victor G. Heiser of the Public Health and Marine-Hospital Service, and Dr. C. G. Campbell, who represented the state of New York.

On the afternoon of December 23 the Minister of Public Instruction invited the delegates to visit the Museum of Antiquities. Every facility was given the visitors for making a thorough inspection. After the visit had been concluded, tea was served in a tent just outside of the museum.

On the afternoon of December 24 the Khedive gave a reception at the Abdine Palace in honor of the visiting delegates and their wives. After he had personally welcomed each one of his guests, a lunch was served. The unusual privilege of inspecting the palace was also accorded the visitors. This reception concluded the social functions.

The opinion was unanimously expressed on all sides that the entertainments provided were far greater in number and elaborateness than is generally the case at medical gatherings. When it is considered that this is an Oriental country and that matters which would be simplicity in themselves in other countries become here almost insurmountable barriers, it will be impossible to speak in too high words of praise of the committee and the medical men of Egypt who brought this about. The greatness of the task will also be better appreciated when it is remembered that the delegates came from many countries and spoke many languages. The success of the congress was due in a great measure to the indefatigable secretary, Dr. Voronoff, and his assistant, Dr. Bittar.

Summary of the Scientific Discussions.

The papers which excited the greatest amount of interest were those on tropical disease, the ones most discussed were bilharzia, pellagra, malaria, vesical calculi, dysentery and ankylostomiasis.

The disease most written about and discussed at the congress was undoubtedly bilharzia. As this disease occurs practically only in Egypt and its general characteristics are not generally known a brief outline of the disease is given below.

Much surprise was generally felt that the subject of cholera did not receive more attention. This was probably due to the fact that there seems to be a general unity of opinion among the medical men as to the methods to be employed in combating this disease.

Very little interest was shown on the subject of yellow fever, this being due, no doubt, to the fact that this disease rarely or never occurs here. The subject of dysentery received considerable attention and the statements of Dr. Kartoulis of Alexandria, a recognized authority on this disease, were considered very important.

Another important point brought out for the first time at this congress was the statement of Professor Loos that the ankylostoma penetrated the skin and gained entrance into the system in this manner. He demonstrated this by a number of tests. (See below.) The paper of Dr. Stiles of the Public Health and Marine-Hospital Service on the same subject was also considered an important contribution. He showed that the disease was much more common in the United States than was generally supposed, that it was pre-eminently a disease of sand areas and that Bentley's view, which is that ground itch is the initial symptom of the disease, is untenable.

Bilharzia.

Synopsis of the Disease.—Cause: *Bilharzia hæmatobia*, discovered by Professor Bilhartz. Lives in the portal vein, is unisexual, male measures from 5 to 12 millimeters in length. Fecundation takes place in the capillaries of the portal system. Ova are carried from there to all parts of the body, but seat of election is in the genito-urinary system. Found to be more common among the inhabitants of lower Egypt. Change of residence to another country usually has a tendency to make the symptoms in the milder form disappear, but they recur again on return to the country; 90 per cent. of cases are men, 10 per cent. women. The disease is introduced in the body in different ways. First, by the gastrointestinal route, the ova being present in drinking water or food. Second, by the organism penetrating the skin (?). (Latter route is supposed to be route of entrance in many cases, but it has not yet been satisfactorily demonstrated.—Loos and Wildt.) Causes abscesses of liver and particularly of the genito-urinary system, fistulas, tumors, etc. Principal constitutional symptom is the great anemia. Frequent cause of stone in the bladder in Egypt, the debris formed in the bladder acting as a nucleus and thus giving rise to stone formation. Eggs may generally be found in the few drops of blood that are passed at the end of micturition. Usually described as occurring in two forms, the mild and the grave. The mild form usually does not require surgical interference. Grave form is characterized by tumors, fistulas, abscesses, etc., which require surgical treatment. For further particulars as to surgical treatment see résumé of Dr. Wildt's paper given below. There is no specific medical treatment. General indications are for salol, santal, alkaline mineral waters and a tonic and symptomatic treatment.

Cholera.

The sum of the observations made on the recent epidemic of cholera indicates that water was the only means by which the disease was conveyed. It was found that wherever an infected locality was supplied with water that was free from cholera germs and the use of the ordinary water stopped, that the cholera disappeared or was greatly lessened almost at once. Wherever a person was found suffering with the cholera the patient was removed to an isolation hospital, and the floors of the house and the walls to a height of about five feet were washed with a lime solution. All fabrics were disinfected with steam, and where that was not possible boiling was used. All containers of fluids were broken, and new ones supplied. The containers among the natives consist almost entirely of crockery of some sort. In the villages where a pure water supply was not otherwise obtainable artesian wells were sunk. Nothing beyond what has been the treatment for cholera in the past was employed.

Below is given a brief résumé of the representative papers delivered before the different sections:

Section of Internal Pathology.

President, S. E. Dr. Comanos Pacha.

Dysentery.—Dr. Kartoulis of Alexandria said tropical dysentery is the only form which gives rise to abscess formation in the liver. Only cases not properly treated ever reach the stage of hepatic abscess. He states positively that from an experience based on hundreds of cases that no case of tropical dysentery should ever reach the abscess stage, and whenever they do, it is the fault of the attending physician. He states that ipecac and other remedies administered internally have their value, but that irrigation of the large intestine is the most essential thing. He uses for this purpose a solution of tannin. He states that other reliable observers have found irrigations with quinin, chlorate hydrate or carbolic acid solutions of great value. He also administers internally sodium salicylate or salicylic acid. The diet must be milk as nearly as possible.

Typhoid.—"The Early Diagnosis of Typhoid Fever by Blood Cultures." Dr. J. Courmont of Lyons claimed that by his method of making cultures from a patient suffering with typhoid fever a positive diagnosis could be made much earlier than by any other method. He claims great superiority over the Widal method because it is available much earlier in the disease.

Ankylostoma Duodenalis.—The object of this paper, by Professor Loos of the Cairo School of Medicine, was to show that the organism of ankylostomiasis can enter the system through the skin. He showed that this was possible by a number of reports of work he had done: 1. A culture of the organism was mixed with charcoal and smeared on a dog. No scarification or friction was employed for this purpose. In a definite number of cases the dogs showed symptoms of the disease, and on postmortem the typical lesions were found and the organism was recovered. 2. A culture of the organism was placed on the back of his own hand and accidentally left there. He himself developed the disease. 3. He showed numerous microscopic preparations in which the parasite could be seen to have passed through the skin.

Uncinariasis (ankylostomiasis).—"A Report on the Disease in the United States," by Dr. Stiles of the Public Health and Marine-Hospital Service, was read by Assistant Surgeon Victor G. Heiser. The points of this paper have been stated in THE JOURNAL. See January 3, p. 48, also pp. 28 and 36.

Surgical Section.

President, Dr. H. Milton.

The subjects which received most attention were bilharzia and stone in the bladder. The consensus of opinion was that liver abscesses due to bilharzia could be treated by puncture but that hospital facilities must always be available for such cases in which accidents occur. For bilharzia in other structures the surgical indications are the same as for like lesions due to other causes.

Lithotomy.—"The Hypogastric Operation for Stone." Dr. H. Wild said that surgeons are generally agreed that the following rules should govern the operation for stone in the bladder:

1. In stricture of the urethra perineal section is indicated because stricture can be treated at same operation.

2. Hypogastric operation is indicated in hypertrophy of prostate because it is the best operation to deal with the hypertrophy.

3. Hypogastric operation in cases of bad cystitis.

4. Hypogastric operation for encysted calculi. Majority of cases of this kind are due to bilharzia.

In addition to the indications given above for the hypogastric operation the author commenced to operate on all cases without choice by this method. The first 100 gave a mortality of 2. One died in 7 days and the other case in 3 weeks owing to renal suppuration. Both cases were afflicted with bilharzia.

An objection to lithoplaxy is that the cystoscope can not be introduced after this operation has been performed owing to bilharzia.

The hypogastric operation should always be done in the Trendelenburg position and without distending the bladder or rectum. The linear incision was always used.

The following are the general indications for the treatment of calculi in Egypt:

1. For small stones use lithoplaxy.

2. Great majority of cases which are complicated by bilharzia should be done with the hypogastric operation.

3. Unless special dexterity is possessed by the operator for lithoplaxy all cases which are complicated with bilharzia should be done with the hypogastric operation. Also cases in which the stone is very large.

Resolutions Planning Future Conferences.

At a general meeting held at 6 p. m., December 23, at the Continental Hotel, the following resolutions were adopted:

1. That the next Congress shall be held in 1907.
2. That a conference similar to the conference held at Venice, should be held soon in order to revise the quarantine regulations.
3. That measures be adopted for a more active sanitary surveillance at the Suez Canal and the Red Sea.
4. That separate pavilions be provided at general hospitals for the treatment of typhoid fever.

Concluding Business.

At a meeting held at the Khedival Opera House on December 24, the president, Dr. Ibrahim Pacha Hassan, in a short address, thanked the members of the congress for their meritorious work. The great success of the congress would cause the Khedive to write the date in letters of gold in the annals of Egypt.

A delegate from each country represented at the congress replied, and in a few appropriate remarks thanked the Khedive and the Egyptians for their kindness and hospitality.

Professor Nothnagel then made a brilliant address on prophylaxis, in which he stated that the efforts for the future must be directed more to prevention than to cure.

A resolution expressing sorrow over the untimely death of Major Reed, U. S. A., was read. The text of the resolution is as follows:

The members of the first Medical Congress held in Egypt learn with the most profound regret of the premature death of Major Reed of the Medical Corps of the United States Army.

The brilliant and important part that he took in the discovery that the stegomyia mosquito was the only agent that transmitted the organism of yellow fever, succeeding thereby to put the ravages of this terrible disease under the control of hygiene, makes his death a cruel loss to humanity.

The congress consequently decides to thus express on this occasion its sympathy with the Medical Corps of the U. S. Army and the family of Major Reed.

The congress also decides to beg of the secretary that he send through the proper channels a copy of this resolution to the Surgeon-General of the U. S. Army and one copy to Mrs. Reed.

After the transaction of some routine business, S. E. Fakhry Pacha, minister of public instruction, in the name of the Khedive declared the congress officially ended.

NEW YORK ACADEMY OF MEDICINE.

Regular Meeting of the Section on Medicine, Dec. 16, 1902.

James K. Crook, M.D., in the Chair.

A Brief Review of Some of the Etiologic Factors of Intestinal Dyspepsia.

DR. E. FRANKLIN SMITH adopted the classification of Dr. Hemmeter, viz.: 1. Intestinal dyspepsia due to abnormalities of secretion; 2, due to abnormalities of absorption, and 3, abnormalities of peristalsis. Heredity was supposed to play a very important part, while occupations involving grave responsibilities or severe nervous strain, predispose to this disorder. But little was known regarding the intestinal juice, and opinions varied greatly concerning the exact action of the bile; however, when the latter was reduced below the normal quantity, stagnation of the bowel contents occurred, with consequent fermentation, irritation and intestinal dyspepsia. The quantity of pancreatic secretion might be diminished by nervous influence, as well as by anemia, febrile disturbances, malignant disease of the pancreas, and the chewing of tobacco. The ingestion of excessive quantities of food, or the use of a diet in which certain ingredients were in excess, might cause intestinal dyspepsia. The imprudent use of drugs, especially laxatives,

was also a cause, and another common etiologic factor was the introduction of toxins with the food. Intestinal dyspepsia also arose as a result of abnormal bacterial activity, the bacteria gaining an entrance through a lesion of the epithelium. Again, intestinal dyspepsia might result from the abnormal performance of the function of the stomach, as, for example, when the hyperacidity of the gastric juice neutralizes the alkaline secretions of the small intestine and stops digestion. It should not be forgotten that a most prolific source of intestinal dyspepsia was to be found in deficient mastication and insalivation of the food. According to Boardman Reed, more than one-half of the cases of so-called nervous dyspepsia are dependent on actual disease in the gastrointestinal tract. Among other causes of intestinal dyspepsia might be mentioned the presence of certain toxic substances in the blood, the activity of intestinal parasites and increased peristalsis. The last-named presented itself under several different forms, but all of them were really neuroses.

Intestinal Digestion and Its Relation to Arterial Sclerosis and Renal Disease.

DR. LEONARD WEBER detailed the histories of three cases of chronic gastrointestinal indigestion which he had carefully observed for twenty-five years or more, and which had finally terminated fatally from interstitial nephritis. It was admitted, he said, that the toxemia associated with acute cases of infantile diarrhea was capable of causing acute nephritis; hence, why should not a chronic toxemia be capable of producing arterio-capillary and renal changes resulting in interstitial nephritis? In 1898, the speaker said, he had published a paper in which he had sought to prove that interstitial inflammatory processes in the kidneys were brought about through the toxins of tissue metabolism acting on the parenchyma of the urinary organs, and in this connection reported cases of already established renal and arterial sclerosis which had been greatly benefited by the persistent use of small doses of the iodids—five grains, three times a day.

Intestinal antisepsis should also be promoted by the more or less frequent use of calomel and lavage of the colon, and by a proper regulation of the diet. He was convinced that through faulty metabolism toxalbumins were produced, and more or less directly led to such constitutional diseases as gout and diabetes. For the purposes of early diagnosis examinations of the blood should prove of more service than analyses of the urine.

Treatment of Intestinal Indigestion; Remarks on Diagnosis.

DR. JOHN C. HEMMETER said that in achylia gastrica severe diarrheas were encountered. To recognize this dyspepsia, a test meal and an examination of the stool were necessary. The feces showed unchanged residue of meat, connective tissue, vegetable foods and perhaps fat residue. He believed that the most efficient means of counteracting dystrypsia due to pancreatic insufficiency was to bring about an appetite, as this was the normal stimulus to normal gastric digestion, and in turn to healthy pancreatic secretion. Experiments had proved the astounding fact that for every kind of food a gastric secretion was formed of definite and specific composition. Under the influence of appetite the gastric secretion furnished was more effective than that secreted under the purely chemical stimulus of food. Then again, there was reason to believe that the various kinds of food mutually advance or interfere with the digestion of their various constituents in the gastric chyme; hence, dietetic measures rather than drugs were indicated in the treatment. An unhygienic mixture of food containing an excess of carbohydrates, the various bacteria and fungi would cause excessive acid fermentation and would specially interfere with pancreatic digestion.

To distinguish between a catarrhal and a jejunal stool, it should be remembered that in the former there were present epithelia and round cells derived from the mucous membrane, while these were absent in the jejunal stool. The latter was rich in bile, had a slight fecal odor and a generally acid reaction. If dystrypsia were due to excessive carbohydrate or proteid ingestion, an exclusion of this particular class of food would be necessary. The seat of starch dystrypsia was in the small intestine. Remnants of meat fibers were always significant of abnormal intestinal indigestion, and if the nuclei in the muscle fiber were very evident, it pointed to an abnormality of the pancreatic secretion. The presence of an excessive amount of undigested connective tissue fibers when scraped raw beef had been taken, justified the conclusion that the gastric digestion was impaired. The appearance in the stools of drops of fat, or of fat crystals, was pathologic, but the presence of fatty soaps was of no diagnostic significance. With regard to treatment, the speaker said that so far the idea of the antitoxin treatment of the auto-intoxications was nothing more than a hopeful suggestion; the true treatment at present must be largely prophylactic and dietetic.

DR. W. W. VAN VALZAH said that for practical purposes he had found it sufficient to classify indigestion according as it was produced by an excess of animal food, of starchy foods and sugars, of the fat foods or of accessory foods, such as tea, coffee and condiments. That form due to animal food was characterized by an excessive production of indican and by foul stools with muscle fiber or connective tissue cells in them. The treatment consisted in restricting the use of such food for the time, the employment of lavage of the stomach and bowel, and the administration of 1/40 to 1/10 of a grain of calomel several times a day. If the indigestion were due to starchy foods or sugars, there would be an accumulation of gas in the large and small intestines, associated with either looseness or constipation, and perhaps with headache. Diminishing the quantity of such food and the administration of ichthyol or of salol, sodium bicarbonate or calcined magnesia constituted the treatment. Intestinal indigestion due to fat foods was shown by the presence of an excessive quantity of gas, by pain or burning, or the sense of uneasiness in the bowels. In many cases there was also a congestion of the liver.

Fatty foods must be reduced or stopped for a time, the stomach washed out and the engorged liver relieved by very small doses of mercurials, alkalies and mild laxatives, along with a very free use internally of pure water. Sufficient water should be used to keep the specific gravity of the urine down to the normal. If diarrhea were present, it could be controlled by the administration of chalk, tannin or similar preparations. All forms of intestinal indigestion called for careful regulation, not only of the diet, but of the sleep and exercise, and the promotion of a healthy mental state.

DR. MORRIS MANGES agreed with Dr. Hemmeter regarding the limited value of the ferments. Dr. Weber's paper, perhaps, explained the early occurrence of arteriosclerosis in some young subjects.

Therapeutics.

[It is the aim of this department to aid the general practitioner by giving practical prescriptions and, in brief, methods of treatment for the diseases seen especially in every-day practice. Proper inquiries concerning general formulae and outlines of treatment are answered in these columns without allusion to inquirer.]

Calcium Chlorid.

Dr. Bertignon, in *Med. Press*, states that, after giving calcium chlorid a thorough trial, he has proved it to possess marked hemostatic properties. He claims to have succeeded in checking hemorrhages where ferric chlorid, antipyrin, ergotin and hot injections have failed. It may be employed in hemorrhages of whatever sort and in maladies presenting hemorrhagic complications such as hematemesis, hematuria, enterorrhagia, metrorrhagia, etc. It is recommended in intestinal hemorrhage complicating typhoid fever, administering a dram per rectum and half a dram by the mouth with a small dose of opium. It is also indicated in hemophylia given as follows:

℞.	Calcii chloridi	ʒi	4
	Syrupi opii	ʒiii	12
	Aquæ	ʒiv	120

Sig.: To be taken in divided doses in twenty-four hours and renewed as long as the hemorrhage lasts.

Frost Bites and Chilblains.

The following combinations are recommended by the *West. Druggist* in the treatment of frost bites and chilblains:

FROST BITES.

℞. Tr. iodi ..... ℥i 4
Spts. etheris ..... ℥x 40
Collodii ..... ℥iv 120
Misce. Sig.: Apply locally with a camel's hair brush; or:

℞. Acidi tannici ..... gr. xxx 2
Glycerini ..... ℥ii 60
M. Sig.: Apply locally on gauze; or:

℞. Balsami peru. ..... ℥iss 6
Misturæ oleobalsam. ..... ℥i 30
Spts. cologne ..... ℥i 30
M. Sig.: Apply locally by painting on the affected parts.

CHILBLAINS.

℞. Creosoti
Liq. plumbi subacetatis, āā ..... gtt. xii 75
Ext. opii ..... gr. iss 09
Olei picis liq. ..... ℥iss 6
Adipis ..... ℥i 30
M. Ft. unguentum. Sig.: Apply locally; or:

℞. Zinci oxidi ..... ℥i 4
Pulv. camphoræ
Pulv. myrrhæ
Pulv. opii, āā ..... gr. xxx 2
Adipis ..... ℥i 30
Misce. Allow the camphor to dissolve in the lard which has been melted by gentle heat, permit this to cool and mix with the other ingredients. Sig.: To be applied locally.

Diarrhea from Acute Intestinal Disorders.

The following is recommended by *Jour. of Tropical Med.* in the treatment of acute intestinal disorders, accompanied by pain and diarrhea:

℞. Morphinæ mur. ..... gr. 1/12 005
Ext. cannabis ind. ..... gr. 1/8 0075
Nitroglycerini ..... gr. 1/600 0006
Ext. hyoscyami ..... gr. 1/4 015
Oleoresinæ capsici ..... gr. 1/20 003
Ol. menth. pip ..... m. 1/20 003
M. Ft. capsulæ No. i. Sig.: One such capsule every three or four hours.

And in cases of dysentery the following:

R. Acidi sulph. dil. ..... ℥ss 15
Tinct. opii deod.
Spts. camphoræ, āā ..... ℥i 30
Tinct. capsici
Spts. chloroformi, āā ..... ℥ss 15
Spts. vini gallici ..... ℥iss 45
M. Sig.: One teaspoonful every two or three hours; or:

℞. Magnesii sulph. ..... ℥i 4
Acidi sulph. dil.
Tinct. opii deod., āā ..... m. x 65
Aq. chloroformi q. s. ad ..... ℥ii 8
M. Sig.: To be taken at one dose and repeated in three hours. And in the diarrhea complicating typhoid fever the following is recommended:

℞. Acidi carbol.
Ext. opii, āā ..... gr. i 06
Bismuthi subnit. ..... gr. xviii 1 20
M. Ft. capsulæ No. vi. Sig.: One capsule three times a day.

Acute Catarrhal Bronchitis.

Danforth, in "Amer. Text-book of Applied Ther.," states, in those cases accompanied by marked pyrexia, dyspnea and hurried pulse, that the patient should be kept in bed and a vigorous cathartic given, such as Rochelle salts, ounce one half (15.), which may be repeated in four hours if necessary. If the pulse is full and strong the following mixture will be of service:

℞. Tinct. aconiti rad. ..... ℥ss 2
Pot. bromidi ..... gr. lxxx 5
Syr. zingiberis ..... ℥iv 15
Aquæ q. s. ad ..... ℥ii 60
M. Sig.: One teaspoonful every two hours.

Large hot cataplasms of linseed meal, in which is thoroughly mixed a teaspoonful of mustard, should be applied locally. They should not be changed too frequently.

If the cough be dry and harassing the following combination is of value:

℞. Codeinæ ..... gr. ii 12
Pulv. ipecac. ..... gr. iii 18
Pulv. camphoræ ..... gr. xxiv 50
Quininæ sulph. ..... gr. xii 75
M. Ft. capsulæ No. xii.

As an expectorant mixture to render the secretion less viscid the following is indicated:

℞. Ammon. chloridi ..... ℥ii 8
Syr. pulveris doveri ..... ℥i 30
Syr. senegæ q. s. ad ..... ℥iv 120
M. Sig.: One teaspoonful every three hours.

In cases where Dover's powder proves too irritating to the stomach, an equal amount of tinctura opii camphorata may be substituted.

If the patients are feeble and require stimulating expectorants, the following is effective:

℞. Ammon. carb. ..... ℥ss 2
Pulv. camphoræ ..... gr. xx 1 30
M. Ft. capsulæ No. x. Sig.: One every three hours.

Or if the patient can not swallow a capsule the following:

℞. Ammon. carb. ..... gr. lxxx 5
Aq. camphoræ
Syr. senegæ, āā ..... ℥ii 60
M. Sig.: One dessertspoonful every three hours.

In the convalescing stage of acute bronchitis potassium iodid is of value combined with expectorants as follows:

℞. Pot. iodidi ..... ℥ii 8
Syr. pulv. doveri ..... ℥i 30
Syr. pruni virg. q. s. ad ..... ℥iv 120
M. Sig.: One teaspoonful every three hours.

Gastroptosis.

According to A. P. Francine, in *Phil. Med. Jour.*, the indications for treatment of gastroptosis are: 1. To relieve the stagnation and fermentation and to increase the motor power of the stomach. 2. To furnish support to the stomach and other abdominal viscera. 3. To improve the general condition of the patient. These may be accomplished by means of hygiene, diet, lavage, and drugs. The drugs which will be found of greatest service are resorcin, carbolic acid, creosote, aromatic spirits of ammonia and sodium bicarbonate.

The following combinations of the foregoing preparations have been used advantageously by the author:

℞. Tinct. nucis vom. ..... ℥vi 24
Resorcin resublim. ..... ℥i 4
Tinct. cinchonæ co. ..... ℥iiss 10
M. Sig.: Ten to fifteen drops every two hours; or:

℞. Resorcin resublim.
Bismuthi subnit., āā ..... ℥iiss 10
Sodii bicarb.
Sacch. albi, āā ..... ℥ii 8
M. Sig.: One teaspoonful every two hours; or:

℞. Creosoti (beechwood) ..... gr. vii 35
Sodii bicarb. ..... ℥ii 8
Pulv. acaciæ
Sacchari, āā, q. s.
Spts. lavendulæ co. ..... ℥ii 8
Aquæ q. s. ad ..... ℥iii 90
M. Sig.: One teaspoonful after meals.; or:

℞. Acidi carbol. ..... gtts. vi 35
Sodii bicarb. ..... ℥ii 8
Spts. ammon. arom. ..... ℥iv 16
Spts. chloroformi ..... ℥ii 8
Mist. sodæ et menthæ ..... ℥iii 90
M. Sig.: One teaspoonful after each meal and at bedtime.

Where there is nausea and vomiting the following does good:

℞. Bismuthi salicylatis
Pepsini, āā ..... ℥ii 8
Cocainæ hydrochlor. ..... gr. i 06
Aq. cinnamomi ..... ℥iii 90
M. Sig.: One teaspoonful three times a day or more frequently if necessary.

Beer Yeast.

The *Medical Press*, in an abstract on the properties of yeast as a microbicide in certain eruptive affections as furunculosis,

chicken-pox, erysipelas, etc., states that very satisfactory results have been obtained. In eight cases of smallpox treated by Dr. Conche of Lyons the fever rapidly fell and the eruption did not come to maturity, consequently there was no suppuration. He administered the fresh beer yeast in beer, in order to mask the taste, giving three tablespoonfuls daily. Reports are also given where beer yeast was given in the treatment of erysipelas in doses of three teaspoonfuls daily. It was ascertained, under its influence, that the fever rapidly diminished and the area of inflammation did not enlarge. It was employed successfully also in the treatment of pneumonia and chronic bronchitis in the aged. In the bronchial catarrhs of old people the expectoration gradually decreased.

This periodical recommends the dry form prepared by chemists as more agreeable to take and as fully efficient as the fresh yeast.

To Cleanse the Scalp.

The following combination is recommended by the *West. Druggist* to relieve the scalp from dandruff:

℞.	Olei ricini	
	Aq. ammon.	
	Am. carb., āā.....ʒi	4
	Alcoholis .....ʒiv	120
	Aquæ q. s. ad .....ʒviii	240

M. Dissolve the oil in the alcohol, add the ammonia water, and add the ammonium carbonate dissolved in the water.

Medicolegal.

Physician May Refresh Memory from Memorandum.—The United States Circuit Court of Appeals, Eighth Circuit, holds, in the case of Bailey vs. Warner, that a physician called to testify concerning a patient's physical condition at a certain time may be allowed to refresh his memory as to the patient's then condition, by consulting a memorandum which he made at the time of his visit relative to the patient's condition.

Time Texas Act Took Effect—Recording Under Old Law.—The Court of Civil Appeals of Texas holds, in Wickes-Nease vs. Watts, that the medical practice act of that state of Feb. 22, 1901, did not go into effect until 90 days after the legislature adjourned on April 9, 1901. The reason given is that the act did not contain any direction when it should go into effect, without which, in view of the constitution, it could not go into effect until 90 days after adjournment. It recited, "The fact that there is no law in force adequately providing for the license of physicians, surgeons and midwives creates an emergency and an imperative public necessity that the constitutional rule requiring bills to be read on three several days be suspended and this act placed on its final passage and it is so enacted." But the court sees in this no more than a suspension of the rules regarding the reading of bills. It also holds here that one who had been duly examined, in 1882, and given a certificate of qualification, which he had recorded in the office of the county clerk, but which he had never filed or recorded in the office of the clerk of the district court, as required by the act of March 23, 1887, could not recover for professional services rendered in May, 1901.

Salary of Health Officer that Was Fixed in Advance.—The Supreme Court of Mississippi affirms a judgment, in the case of Perkins vs. Panola County, allowing the party suing but $50 per annum as county health officer. The office had previously paid $300 per annum, but, prior to his appointment, the board of supervisors had fixed the salary at $50. Immediately after his appointment, he notified the board that he would not serve for $50 per annum, and subsequently resigned, but his resignation was not accepted by the State Board of Health, and he continued in office, notifying the board of supervisors that at the end of his term he would sue for a reasonable salary. The Supreme Court says that the verdict of the jury in favor of the county was a finding, on the whole evidence, that the reduction of the salary from $300 to $50 per annum was not, under the circumstances of this case, an abolition of the office. This salary was fixed in advance, as the law requires. The party suing was not appointed until after this. He acted in full view of the whole situation. On the facts in this record, no other proper result could have been reached than that arrived at by the jury.

Privilege Under Utah Statute.—Section 3,414 of the Revised Statutes of Utah provides: "There are particular relations in which it is the policy of the law to encourage confidence and to preserve it inviolate; therefore, a person can not be examined as a witness in the following cases: . . . (4) A physician or surgeon can not, without the consent of his patient, be examined in a civil action as to any information acquired in attending the patient, which was necessary to enable him to prescribe or act for the patient." The Supreme Court of Utah says, in the personal injury case of Munz vs. The Salt Lake City Railroad Company, that the policy of this law is to keep inviolate the secrets of those who are in charge of physicians, and to encourage confidence between physician and patient. Whether the statute is a wise or unwise enactment is not for the courts to decide. It is their province to give it such a reasonable interpretation as will give effect to the legislative will. Its evident purpose is to prevent a physician from disclosing information obtained in the sick room necessary to properly discharge his professional duties to the patient, and this is so as to any such information, whether obtained directly from the lips of the patient, or from observation, or from those present at the time of the examination. Nor is it material in such that the physician was called by the patient or a stranger, or, as in this instance, by an officer of the company sued, at the request of the patient. In general, whenever such an examination is made, the presumption is that the relation of physician and patient exists, and that the information is obtained for the purpose of enabling the physician to prescribe or act for the patient. In this case, the injured party testified that they had no money to pay a doctor; that she went to see the company's superintendent about her injury, and that he sent the physician. The physician stated that he examined the patient at her home by request of an official of the company; that he was at liberty to prescribe treatment; that, if he had found a condition that needed treatment, he would have prescribed; that he did prescribe and treat such cases where they required it; and that one of the conditions in view when the examination was made was to prescribe, if necessary. The court holds that the testimony of the physician as to what such examination revealed was properly excluded. It says that the physician made the examination with the view of prescribing if the condition of the patient required it, and under the circumstances disclosed in the evidence it was clear that the relation of physician and patient existed, and the information thus obtained was privileged under the statute.

Compensation of Surgeon—Opinions—Raising Bill.—In the case of Ladd vs. Witte, an action brought to recover for services in performing an operation on the latter party's newly-born imperfect child, the Supreme Court of Wisconsin holds that an instruction telling the jury that they must determine the value of the services, under all the credible evidence in the case, if they should be of the opinion that the services were of value to the party sued, was based on a most unfortunate and misleading hypothesis. It says that it certainly tended to confine the jury to consideration of what and how much benefit resulted to the party sued from this fruitless incision into the body of his new-born child, whose death was certain without the operation, but equally occurred, it notwithstanding. That is not at all the test. So that a surgical operation be conceived and performed with due skill and care, the price to be paid therefor does not depend on the result. The event so generally lies with the forces of Nature that all intelligent men know and understand that the surgeon is not responsible therefor. In absence of express agreement, the surgeon who brings to such a service due skill and care earns the reasonable and customary price therefor, whether the outcome be beneficial to the patient or the reverse. The surgeon requested a direct and plain instruction that the jury must be guided solely by the evidence relating to the value of services. It was error to incumber such direction by the hypothesis stated. Again, the jury were instructed that the opinions of experts as to the

value of the services of the surgeon were not conclusive on them. Such opinions were advisory only. They must, in the end, use their own judgment in determining the value of the services, guided by the credible evidence in the case, and assisted by opinions of the experts. This instruction the court also holds erroneous, there being no evidence whatever in conflict with that of the two physicians—one disinterested—that, in their opinion, the customary and reasonable value of the services rendered exceeded $50. In the absence of conflicting evidentiary facts, it says that there seems to be no answer to the logic that jurymen, as such, have no presumptive knowledge on the subject of the value of professional services, and must be guided by the evidence offered on the trial, and consequently are not at liberty to disregard the same, and enter the field of their own uninstructed conjecture. An instruction to the effect that the surgeon was not precluded from recovering more by reason of having originally sent his bill for but $50, the court says would, of course, have correctly stated the law, and might well have been given to assure full understanding by the jury, though, technically, it was covered by an instruction to allow such sum as the evidence proved the value of the services to be up to $100, the amount of the surgeon's amended claim.

Current Medical Literature.

AMERICAN.

Titles marked with an asterisk (*) are abstracted below.

Medical Record, New York.

January 10.

1 *A Comparative Study of the Routine Treatment of Certain Diseases in Four of the Large New York Hospitals. Henry P. Loomis.
2 Extrauterine Pregnancy. H. J. Boldt.
3 *Adhesive Plaster Strapping for Sprains—The Indications for Its Use. Finley R. Cook.
4 *Inguino-Superficial Hernia (Kuester). Alexis V. Moschcowitz.
5 Remarks on Bacteriology and Serum Treatment of Puerperal Septicemia, with an Illustrative Case. Charles S. White.

1. **Hospital Treatment.**—The four diseases, the treatment of which in the Presbyterian, Roosevelt, New York and Bellevue hospitals is described, are, first, typhoid fever, which is treated by an exclusive milk diet, alcoholic and other stimulants, the Brandt bath treatment; the special symptoms such as headache, sleeplessness, etc., being properly met and the patient kept in bed until after the temperature has been normal for a week. In the second disease, pneumonia, the treatment begins with calomel in small doses followed by a saline, the calomel repeated during the course of the disease, if necessary. Local measures are applied as required. The treatment of fever varies. The plan of water treatment is not uniformly applied. Some tub patients with a temperature of 103 and over, and some use sponging when it reaches 102. For the severe pain, poultices and hypodermics of morphin are employed. At the Roosevelt Hospital they often strap the side instead of poulticing. For insomnia the one drug which is universally used is codein in ¼-gr. doses. The three cardiac stimulants used in all the hospitals are alcohol, strychnin and digitalis; the latter only when the others have failed, as a rule. The only other drug occasionally used by all four was nitro-glycerin, and cyanosis is the one symptom which specially indicates its use. For acute articular rheumatism the alkaline salicylate treatment seems to be generally employed. Oil of wintergreen is used to a certain extent in some of the hospitals. At the Roosevelt Hospital the salicylate treatment is first tried, and if not effective, the alkaline treatment follows. Guaiacol is employed in all the hospitals except the Roosevelt, largely by applying it directly to the joint. The diet in all is the same, exclusively milk. Hyperpyrexia is treated in the New York and Presbyterian hospitals by tubs for a temperature of over 105. Pericarditis is treated at all by ice-bags at the precardial space and morphin, if required. The fourth ailment is pleurisy with effusion, and in only one of the hospitals is the fluid removed from the chest when the condition is first diagnosed. In all the others the case is watched before aspiration, and operation is performed only in case of a large amount of fluid, pain, and embarrassed heart action and prostration, and when the fluid remains at a fixed level for five or ten days. The methods vary a little in the different institutions. The following indications for operation are recognized by all, cardiac embarrassment, severe pain, persistent cough and faintness. The diet is what is known as soft, eggs, gruel, soups and principally milk.

3. **Adhesive Plaster Strapping.**—The different pathologic conditions which call for this measure, according to Cook, possess one factor in common, relaxation of tissue, and he points out its special advantages in sprains and contusions. The ordinary diagnosis of sprain is inadequate. We should know exactly what particular ligament or ligaments are involved, and where a ligament has more than one insertion, it is our duty to ascertain what special part is the seat of the sprain, and adopt measures accordingly. He reports a number of cases.

4. **Inguino-Superficial Hernia (Kuester).**—A case is reported by Moschcowitz, who discusses the pathology. In this case there was originally a cryptorchidism and open processus vaginalis. Only the omentum was involved. He reviews the literature and explains the mechanism.

Boston Medical and Surgical Journal.

January 8.

6 *The Malignancy of Joint Tuberculosis, Illustrated by a Series of Forty-seven Cases. Charles F. Painter.
7 *The Importance of Increased Hospital Accommodations for the Treatment of Measles. John H. McCollom.
8 *An Experimental and Practical Demonstration of the Value of Downes' Electrothermic Angiotribe. John W. Keefe.
9 Plague Serum in Three Cases. W. J. Calvert.
10 The General Treatment of Tubercular Bone and Joint Diseases. Joel E. Goldthwait.

6. **Joint Tuberculosis.**—From a total of 47 observations and the study of the literature Painter draws the following conclusions:

1. Tuberculous disease tends to recur after apparent cure in a considerable proportion of cases.
2. This recurrence is most commonly a local one. Metastases are not common.
3. Trauma, direct or indirect, is frequently associated with the recurrence. Indirect trauma is probably the exciting cause of the recurrences, especially where partial anchylosis or deformity exists.
4. Patients who have suffered from bone and joint tuberculosis should be cautioned that they are not well when symptoms have ceased and that reasonable care must be exercised to avoid recrudescences.
5. Deformity and shortening should be corrected as far and as accurately as possible to lessen the chance of recrudescence.
6. Mechanical treatment, especially fixation, should be used in the acute conditions in childhood. Exploratory interference, where discretion is used, with a view to removal of isolated foci, is *advisable* in many cases in children, and is to be *urged* in the majority of the recrudescences, if seen early. Recognition of the fact that patients with hip disease, Pott's disease and tumor albus have tuberculosis just as much as if they had phthisis, and should be treated accordingly, must be insisted upon.

7. **Measles.**—McCollom finds that measles is not such a mild disease as commonly held, and hospital treatment is advisable. It is the most infectious of all disorders and may be so long before the diagnosis. Its complications are serious, especially diphtheria, and its sequelæ, like inflammation of the ear, are also liable to give trouble. There are many individuals living in boarding houses or lodging houses who require hospital treatment if attacked by this disease, and present accommodations are inadequate. A separate pavilion is absolutely necessary for the treatment of these patients in a hospital.

8. **Downes' Electrothermic Angiotribe.**—Keefe has experimented on animals by resection of the intestine with the aid of this instrument, and reports results. He also reports a number of gynecologic cases in which it was also utilized. In none of the cases were ligatures used, and no hemorrhages occurred. The advantages are rapidity of operation, asepsis and cleanliness, no soiling with blood, pus or feces, hemostasis without the aid of a ligature, no secondary hemorrhage from the splitting of ligatures, or subsequent infection of the same, less pain subsequent to operation as the tissues are not puckered or constricted by ligatures. The use of the instrument is very simple, and it should be tried before passing judgment on it.

Philadelphia Medical Journal.

January 10.

11 *Health Resorts of New Zealand. G. Frank Lydston.
12 *What Can Be Done to Lessen the Mortality of Carcinoma Uteri? E. E. Montgomery.

13 *The Parasyphilitic Affections, the Curability of Tabes and General Paralysis by Intense Mercurial Treatment. Dr. Leredde.
14 *Remarks on the Treatment of the Visceral Ptoses. J. Madison Taylor.
15 *On the Practical Results of Actinotherapy. William S. Gottheil.
16 *Treatment of Malignant Growths with the X-Rays. William S. Newcomet.
17 *Urine Segregation; Its Importance and Methods. Andrew J. Downes.

11. **Health Resorts of New Zealand.**—Lydston gives a very interesting account of the health resorts in New Zealand, which seems to be a country specially endowed in this respect. A special series of articles on the Doctor's travels are appearing in THE JOURNAL A. M. A.

12. **Carcinoma Uteri.**—Montgomery's article points out the connections between parturition injuries and cervical carcinoma and insists on preventive measures. The exploration of injuries to the pelvic floor and cervix, especially near the menopause, antiseptic local treatment, and the general necessity of early recognition of the condition and early operation in healthy tissue, with care to prevent reimplantation of the diseases, are insisted on. In the majority of cases the abdominal method is preferable to the vaginal, as it enables one to get farther away from the involved structures.

13. **Parasyphilitic Affections.**—The history of parasyphilitic disorders and Fournier's part in its origination is noticed by Leredde, who disagrees with Fournier, holding that the term has been made to cover too wide a signification and that we should broaden our ideas of what is really syphilitic. What we call parasyphilitic disorders are probably really syphilis in their pathology.

14. **Visceral Ptoses.**—Taylor gives the treatment of visceral ptoses which he would advise, consisting in stomach lavage, faradization, exercise, improved attitude in standing, and disuse of belts, as a rule, excepting one which he has found of advantage, the device of Morris Longstreth of Philadelphia, which is non-elastic, firm, and holds the abdomen in its proper place. The danger is that it is liable to over-use. The real curative agency is a series of exercises which he describes to strengthen the abdominal walls and other muscles that are involved, such as the diaphragm and intercostals. They consist in stretching movements of the limbs, ligaments, abdomen, hips, etc., that gradually push the tissues back into place, but so slowly that no harm can be done. For details the reader is referred to the original article.

15. **Actinotherapy.**—Gottheil's article is a review of the various disorders in which this method has been proven of advantage.

16. **X-Rays.**—Newcomet reports several cases of carcinoma and epithelioma cured or relieved by the *x*-ray.

17. **Urine Segregation.**—Downes describes a new instrument, a modification of and improvement on the Harris segregator, being simpler in structure and requiring no suction apparatus, and introducing a new feature, siphonage, for obtaining the urine from a divided bladder. In the later form the urine at all levels is conducted to the bottom of the prepared sulcus, from which it is siphoned out. It is not, however, as efficient in the female as in the male bladder, and he has, therefore, made a shorter instrument for use in the female bladder alone.

Medical News, New York.

January 10.

18 *On the Need of a Radical Reform in Our Methods of Teaching Senior Students. William Osler.
19 *The Instruction of Senior Students in Medicine. W. Gilman Thompson.
20 *Boiling as a Method of Sterilizing Catheters. C. B. Nancrede and W. H. Hutchings.
21 *Veratrum Viride as an Antitoxic. A. B. Isham.
22 *The More Frequent Diseases of the Joints: Their Etiology and Treatment, with Report of Cases. Joseph H. Stolper.
23 Intermenstrual Pain. Jennie G. Drennan.

18.—See abstract in THE JOURNAL, Dec. 20, 1902, p. 1609.

19. **Medical Teaching.**—Thompson points out certain difficulties in clinical teaching, the difficulty of handling every variety of the disease, of demonstrating all the symptoms of any given one, and the danger of bedside teaching becoming too superficial. In pointing out the difficulties he does not intend to disparage the method, but thinks it should be employed to elucidate rather than to supersede the broad foundation laid by reading and recitations, and supplemented by didactic and clinical lectures. See also THE JOURNAL, Dec. 20, 1902, p. 1610.

20. **Sterilization of Catheters.**—Nancrede and Hutchings give a report of their experiments to test the value of boiling in sterilizing catheters. They find the elastic (that is the English-web catheters) and soft-rubber catheters can be repeatedly boiled for five or more minutes without roughening of their surfaces or diminution of their elasticity and strength. Chemical sterilization requires a longer period, as does also formalin vapor. Just how short a time with the latter will be efficient they propose to ascertain. All the methods of sterilization commonly employed should be continued for a longer period than the minimum required for laboratory germ destruction. Washing with warm soapsuds is not essential. Boiling carries away the oily lubricants that have been used, together with many germs. In boiling the catheter it is necessary to keep it from touching the bottom of the vessel, which can be done by enveloping it in gauze or a towel. Their experiments are given in detail.

21. **Veratrum Viride.**—Isham reports cases treated by subcutaneous injections of veratrum viride, of eclampsia, pneumococcus infection, tuberculosis, convulsions, gallstone disease, acute delirium, etc. He holds that with veratrum viride dehydration of the tissues and the renewed and purified blood stream, furnishes a means for regeneration. He thinks that it can be used in tetanus or strychnia poisoning. The properties by which it acts are largely inherent in its active principles of jervia and veratroidia. He speaks also of the value of the moral effect of the remedy, which is very decided. He uses it in hypodermic injections in 10 to 15 minims of Norwood's tincture and even larger doses. He says he thinks 20 drops of Norwood's tincture is the proper initial dose in the adult, to be followed by 10 drops more in half an hour where it falls short of emesis. In no case have fatal effects followed the medication.

22. **Joint Disease.**—Stolper points out:

1. That no matter how bad or how far the disease of the joint may have progressed, with our present methods the sufferer can expect not only relief, but positive curative effects if proper steps of treatment are adopted. 2. That while we have no general plan for the treatment of such cases, we have by the aspirating needle and microscope a valuable uniform plan for diagnosis. 3. That diseases of the joints being due to many causes, the systemic conditions, family and personal history of the patient become of the utmost importance. 4. That my method of treatment is a modified Phelps' method, but superior to Phelps' in the following points: (*a*) Carbolic acid, if used in drop doses only, does not have the desired effect; in large doses it causes sloughing of the parts, while bichlorid of mercury, if not allowed to be absorbed, accomplishes its purpose and can be used in any quantity; (*b*) the 1 to 2,000 solution, while not too strong, is strong enough for germicidal purposes; (*c*) the use of alcohol hardens the tissues and prevents the absorption of the mercury, which is washed out with sterilized water. 5. That while I know that it is the practice of the profession to condemn operations on tuberculous joints, I wish to urge the advisability and necessity of such operations. Let us treat tuberculous conditions, when possible, as any other septic condition.

American Medicine, Philadelphia.

January 10.

24 *The Treatment of Epilepsy by the General Practitioner. William P. Spratling.
25 Report of Two Cases of Transverse Position of the Fetus with Prolapse of an Arm and Impaction. Charles S. Barnes.
26 *Gastrosia Fungosa. Mark I. Knapp.
27 The Causes of Death in Diphtheria. Bernard Kohn.
28 *Pertussis, with Special Reference to Its Early Diagnosis from the Blood Findings. Alfred Wanstall.
29 A Case of Infection with the Double-Pored Dog Tapeworm (Diplydium caninum) in an American Child. Ch. Wardell Stiles.
30 Hospital Work of Dr. Carl Lauenstein. Nicholas Senn.

24. **Epilepsy.**—Spratling maintains that epilepsy is curable in many instances. Its two primary causes are heredity and stress, heredity, similar and dissimilar, existing in some 56 per cent. of cases. Among the commoner forms of stress, as he calls it, are menstrual derangement, syphilis, alcoholism, etc. He says there are to-day in the Craig Colony a number of epileptics who have no convulsions whatever because they can get no alcohol. Among the more active causes in early life and in infancy, he mentions the accidents at birth, such as asphyxia of the newborn, emphasized by Dr. Jacobi, and blood clots occurring at birth. As regards treatment, he insists on

individualizing, necessitating a regulated dietary, and if the bromids are used, the deprivation of salt, correction of optical defects, gastrointestinal disorders, etc.

26. **Gastrosia Fungosa.**—This is supplementary to a monograph on organacidia gastrica, published in the *New York Medical Record*, Sept. 6, 1902. Knapp describes the symptoms of mold in the stomach, pointing out the methods of diagnosis, and the therapeutic principles of cleaning out the mold, and giving drugs to destroy the organic acids. Lavage, the use of mineral acids, the use of fresh-cooked food, the thorough washing of vegetables and fruits, especially grapes, are also mentioned. He reports and discusses cases.

28. **Pertussis.**—The special point of Wanstall's paper is the blood examination. The excess of lymphocytes over polynuclear neutrophiles is rather characteristic of this disorder. Figures, however, are more convincing *en masse* than when considered individually, and exceptions to the rule may be found.

New York Medical Journal.

January 10.

31 *Colorado Climate and Eastern Patients. W. A. Campbell.
32 *The Repair of Lacerations of the Pelvic Floor. James H. Burtenshaw.
33 *The Origin of Chorioepithelioma of the Uterus. Samuel W. Bandler.
34 *Some Tonsil Affections. Richard B. Faulkner.
35 *Report of a Case of Tetanus Following Vaccination. William S. Cooke.
36 *Thoughts on Fetal Intracranial Hemorrhage. Douglas H. Stewart.
37 *Note on the Salt Starvation Principle in Epilepsy Treatment by Bromids. L. Pierce Clark.

31. **The Colorado Climate.**—The natural advantages of Colorado, the mildness of its climate, abundance of pure air and sunshine and natural sanitary conditions are first noted, and after these the acquired advantages. The author points out how the pulmonary patient may be improved in this locality better than elsewhere. One of the greatest misfortunes is that there is no adequate regulation of quacks, but if the patient puts himself in the hands of a reliable physician, much can be done.

32.—See abstract in THE JOURNAL, xxxix, p. 1,204.

33. **Chorioepithelioma.**—Bandler explains chorioepithelioma according to an elaborate theory of his own, namely, that it is due to an overgrowth of fetal cells which are constantly entering the organism of the mother. The ovarian influence which should hold overgrowth in check is not sufficient. His theory includes an explanation of fecundation, pregnancy and labor. The ovary is responsible for the changes which show themselves in the periodic loss of blood known as menstruation, but if a fecundated ovum is present, the ovum and its enzymes nullify the menstrual stimulation of the ovarian secretion. The trophoblast cells invade the maternal decidua, which is now constantly stimulated by the ovarian secretion, and likewise enter the blood of the mother. The placental secretion nullifies the action of the usual forces and menstruation does not occur. At the end of nine months, when the ovarian secretion is sufficient in amount or character to overcome the neutralizing action of the enzymes of the ovum, labor occurs. If between fecundation and parturition the ovarian secretion is in excess, the constitutional involvement known as eclampsia results. The occurrence of chorioepithelioma is due to a lack of some normal secretion, which he thinks is probably an ovarian secretion that is sufficient to hold the growth of fetal cells in check.

34. **Tonsil Affections.**—Faulkner's article is rather a general one, describing the tonsils and their probable functions and holding that wisdom seems to demand in every case of tonsillar affection, thorough antiseptics, greater care in the preservation of lymphoid structure, and more conservative surgical and decidedly more comprehensive and detailed medical treatment of the nares.

35. **Vaccination Tetanus.**—Cooke reports a case in a four-year-old child with favorable termination, which he thinks was due to post-vaccinal infection during the child's play out of doors.

36. **Fetal Intracranial Hemorrhage.**—The idea Stewart advances is that this accident arises from unequal squeezing of the cranium and its contents. He thinks much can be done to prevent it by careful dilation of the os and pressure with rubber dilator in case of dry labor, and proper forceps manipulation to put the head in a position where undue intracranial pressure will be avoided. When the child is born, feel the fontanelles with the palmar surface of the finger, never with the point, having the contact as extensive as possible; pulsations are made out quite clearly in this manner. Lay the palmar surface of the little finger along the arched top of the tongue, and if there is tremor or rigidity the clot is at the base. There is no attempt at sucking. There may or may not be in the vertex cases, although sucking well on the second or third day is no disproof. Rigidity of the jaw is rare. A peculiar convergent strabismus (clonic) is common, and gives good ground for a fatal prognosis if it lasts more than a few minutes. It is also found after burns in infants, and if it begins, usually continues until death.

37. **Epilepsy.**—Clark calls attention to the importance of hypochlorization in epilepsy, reducing the sum total of chlorin in the body and making room for bromids. This, of course, does not obviate the necessity of other measures, hydrotherapy, massage and general hygienic treatment, but does away with bromism, gastric irritation, constipation and mental hebetude common in the older forms of bromid sedation. A lesser quantity of bromid is needed.

Cincinnati Lancet Clinic.

January 10.

38 The Lumbar Segment of the Ureter. Byron Robinson.
39 Surgery of the Prostate. (Continued.) B. Merrill Ricketts.

St. Louis Medical Review.

January 10.

40 Practical Surgery. E. S. Goodhue.

Medical Age, Detroit, Mich.

December 25, 1902.

41 *Care of Eyesight of School Children. G. C. Eggers.
42 *Overenthusiasm and "Fake" Specialism in the Diagnosis and Treatment of Genito-Urinary Disease. G. Frank Lydston.
43 *Observations on the Treatment of Malaria. Virginius W. Gayle.

41. **Eyestrain of Children.**—Eggers' article was read before a teachers' institute and gives the facts as to the importance of care of the eyesight in children and the means of avoiding injury at an early age in school studies and methods.

42. **Specialism in Genito-Urinary Disease.**—Lydston protests against the too vigorous methods of treatment of cases of genito-urinary disease, illustrating it by cases from which he deduces the following:

1. That unnecessary manipulations and explorations of the genito-urinary organs are dangerous. 2. That the long way around to diagnoses should be avoided when the short cut by the common-sense road is sufficient. 3. That preliminary "accurate" diagnostic explorations, especially under anesthesia, should be avoided where practicable, and operations which have been proven necessary at once proceeded with.

He remarks also that he has seen a number of cases where fatal results followed radical operations on the genito-urinary organs and in which he felt that the double exposure to anesthesia in the preliminary diagnosis and during the operation, rather than the latter *per se*, was responsible for the death of the patient.

43. **Malaria.**—Gayle's article recommends the salicylic acid ester of quinin, known as saloquinin, as being free from the objections to quinin in malaria and a perfect substitute for it. It is tasteless, non-toxic, does not produce nervous disturbance, mental distress or tinnitus, while it is analgesic, antipyretic, and its action as a germicide is greater than quinin. Idiosyncrasy need not be considered, as no bad effects follow its use. It is a remedy, he says, to use in malarial hematuria, can be given to pregnant women because it has no oxytocic effects, and is also beneficial in la grippe.

Northwestern Lancet, Minneapolis, Minn.

December 15, 1902.

44 *Malignant Disease Involving the Gall-Bladder. William J. Mayo.
45 *The Relational Pathology of Pneumonia. H. A. Tomlinson.
46 Harelip and Cleft Palate. J. Warren Little.

January 1.

47 *Diagnosis of Ulcer of the Stomach. Christopher Graham.
48 *The Methylene Blue Fallacy. F. C. Drenning.
49 Foreign Body in the Urinary Bladder, with Report of Two Cases. M. C. Millet.

50 Paraffin Injection in a Case of Deformed Nose. W. A. Porteous.
51 *A Few Thoughts on Rheumatism Other Than the Acute Articular Form. G. F. Smith.

44. **Malignant Disease of the Gall Bladder.**—Out of 405 operations performed on the gall bladder and biliary passages in St. Mary's Hospital Rochester, Minn., during ten years, nearly 5 per cent. were of the malignant type, a frequency which Mayo remarks is sufficient to deserve careful attention. It seems to be much more prevalent in females than in males. Its connection with gallstones is noted. He says the following indisputable facts attract attention: 1. Gallstones are almost constantly present in primary malignant disease of the gall bladder and rarely in secondary. 2. The relative proportion of gallstones and malignant disease of the gall bladder in women and men is practically identical. 3. The pathologic lesions found are best explainable on this theory. 4. The similarity in age frequency. These, he thinks, warrant the opinion that gallstones are an important etiologic factor in malignant disease of this organ. The diagnosis is usually easy, though there may be some confusion with cyst of the gall bladder and stone impacted in the cystic duct, or adherent gall bladder shrunken down on a mass of stone. It is sometimes impossible even on the operating table to say whether a thick-walled gall bladder is malignant or not. Mayo reports in conclusion several cases and remarks that in all cases where the liver was involved secondary to primary cancer of the gall bladder, there was early recurrence. This is also true in those cases in which the lymphatic glands in the tissue of the liver were infected. Jaundice occurs in about one-half of the cases and contraindicates operation, as it is a late symptom.

45. **Pneumonia.**—Tomlinson reviews pneumonia in its relation to other organs than the lungs, calling attention to the variation in symptoms in certain cases, remarking that it should be considered more a general toxemia than as a local lung disease. Autointoxication, gastrointestinal in origin, and failure of elimination, due to renal inadequacy, are in his experience the gravest dangers.

47. **Gastric Ulcer.**—Graham describes the symptoms of gastric ulcer, gas, belching or bloating or both, burning pain, eructations, heart burn, sour stomach, vomiting, weakness and hemorrhage. The more characteristic and common symptoms, such as pain and vomiting, are treated of at length. The difference between the characteristic symptoms of cancer where there is a more constant and diffuse pain, and gallstones are remarked. In conclusion he mentions gastrosuccorrhea of nervous origin and gastralgia as causing possible conditions embarrassing the diagnosis.

48. **Methylene Blue.**—Drenning holds that methylene blue is practically non-active in gonorrhea and reports cases to prove his contention. Its psychologic effect, however, renders it still a popular method. There is nothing that produces such prominent obvious effect to the patient with so little inconvenience.

51. **Rheumatism.**—Smith advocates aspirin in rheumatism as relieving pain and inconvenience and gives cases where he has found it of benefit. It is a potent agent, he says, especially where the salicylates have proven inefficient, and in chronic, subacute and abarticular forms of rheumatism.

Interstate Medical Journal, St. Louis.

December, 1902.

52 *Bladder Drainage. Reginald Harrison.
53 *Protectives Against Effects of X-Rays. Wm. Allen Pusey.
54 *The Reposition of Fractured Fragments as Indicated by the Roentgen Rays. Carl Beck.
55 *Viability of Bacillus Pestis. W. J. Calvert.
56 *Liquefied Oxygen and X-Ray Treatment of Malignant Growths. A. Campbell White.
57 Report of a Case of Syringomyelia. M. W. Hoge.

52. **Defective Bladder Drainage.**—Defective natural drainage is rare in childhood and early life owing to the anatomical conditions, but later becomes not uncommon, especially after the 60th year in the male, with incontinence from bladder irritation or inflammation, possibly the formation of phosphatic stone, possible extravasation of urine, etc. The bladder may sometimes, by reason of decomposing urine in its effect, resemble, so far as its contents are concerned, a chronic abscess. In such cases catheter drainage and thorough washing out fails to supply that free and continuous drainage that is required. Harrison mentions his method of urine drainage by the perineum, puncturing the membranous urethra on the centrally-grooved staff sufficient to permit the introduction of a finger in the bladder, followed by a drainage tube made to fit correctly both in length and in relation to surrounding tissues, without side leakage. For the first forty-eight hours a specially-made gum-elastic tube should be used, later one of Annandale's pattern with a drainage continuation and tap is substituted. In this way the patient may be up and about within a few days, wearing his apparatus, and long confinement is avoided. In some instances drainage soon proves effectual in restoring the natural condition, while in others the permanent utility of the apparatus may render life comparatively comfortable. Catheter life, he thinks, is not warranted by slight inconvenience and urination once or twice at night and corresponding calls in the day time. Considerable discretion, however, must be exercised on this point. For decomposition of residual urine, which sometimes is not relieved by catheter and lavage, he suggests the use of urotropin, benzoate of ammonium and salol.

53. **X-Ray Protection.**—Pusey finds sheet lead the best protective; 1/25 of an inch thick is usually sufficient to exclude the *x*-rays. He covers the masks on both sides with ordinary wrapping paper, which can easily be washed off and replaced, leaving the mask clean. A speculum can be made by the use of block-tin tubing. For vaginal exposure he has used the ordinary Ferguson specula. To make exposure in the mouth, vagina, or even the rectum, Caldwell's tube is by far the best method; in fact, this is, in his opinion, the greatest single addition that has been made to the technic of the therapeutics of the *x*-rays. The hard rubber masks that have been suggested, he thinks, are almost no protection. If for any reason it is impossible to use lead, some slight protection may be obtained from oxid of zinc adhesive plaster; equal parts of bismuth subnitrite and vaselin would make a fair protection. Vaselin of itself is absolutely useless.

54. **Fractures.**—Beck points out the value of the Roentgen ray in the detection of fractures and their necessary individual treatment.

55. **Bacillus Pestis.**—Calvert has experimented on the viability of this bacillus by preparing tubes which were placed in a thermostat, exposed to direct sunlight on hot pavements, etc. They showed that the *Bacillus pestis* is more resistant than has ordinarily been believed. If an organism can live forty-four days on paper in a thermostat, at 32 to 34 C., or two hours and 45 minutes on a hot brick pavement in the tropical sun at 130 to 140 F., it can certainly live longer in a moist, dark room, where more suitable culture materials can be found. In the Orient there are many out-door spots where the sun never shines, and here the bacilli might live for an indefinite time.

56. **Liquefied Oxygen.**—This substance, which is ordinarily called liquefied air, but which more properly becomes liquefied oxygen by the rapid evaporation of nitrogen, is considered in some cases preferable to the *x*-rays for the treatment of malignant disease. White would employ it in the treatment of superficial epithelioma, but exclude it in cancer of the breast where no ulceration has taken place. For ulceration, followed by hemorrhages and excessive odor, it is indicated, and it would be an excellent change from arsenic and other caustic measures used as an adjuvant to hasten matters.

Ophthalmic Record, Chicago.

December, 1902.

58 Hemostatic Forceps for Use in the Orbit. Lucien Howe.
59 Report of Three Cases of Congenital Punctate Cataract. J. G. Parsons.
60 *Heterophoria. Melville Black.
61 A Case of Rupture of the Choroid with Glaucomatous Symptoms. Howard F. Hansell.
62 *On the Use of Large Doses of Salicylate of Sodium and an Attempt to Explain Its Action. H. Gifford.
63 *On the Necessity for the Use of Color Names in a Test for Color Blindness. F. W. Edridge-Green.

60. **Heterophoria.**—In Black's last 1,000 refraction cases only 49 have been cases of heterophoria. Under this term he

includes only those where there is at least 5 degrees of lateral imbalance or 1 degree of vertical imbalance. Women are more frequent sufferers than men. He has been disappointed with all forms of exercise of the eye muscles for its correction, except in cases clearly dependent on constitutional conditions. Prisms up to 5 degrees for lateral correction and up to 3 degrees for vertical correction, are often worn for years with comfort, but he is inclined to think that in most cases to prescribe a prism of a given strength means that later one of a higher degree will be required, and so on until operation is demanded. This applies more to lateral than to vertical correction. The measurements of adduction, abduction and circumduction do not throw much additional light on the case. Tenotomy should be a last resort. He does not use any "graduating" on the tendon, in tenotomy, except where the vertical muscles are concerned. He prefers a little over-effect to under-effect.

62. **Salicylate of Sodium.**—Gifford thinks that salicylate of sodium is employed in too small doses in rheumatic eye complications. He has not had much good from aspirin. His views in regard to the use of the salicylate in sympathetic ophthalmia have already been published. In interstitial keratitis where the patient shows no marked signs of hereditary syphilis, it acts almost like a specific, and in iritis the relation between the condition and the rheumatic diathesis is best clearly shown by the effect of this drug. He has also found it useful in the pain of herpes of the cornea. As to the manner in which it acts he finds that very large doses can be borne. A man can take about one grain per pound weight in the waking hours, and it begins to be excreted almost immediately. Its germicidal action seems slight, but he favors Oltramare's idea that its effect is due to local depletion caused by general capillary dilatation which the salicylates induce.

63. **Color-Blindness.**—Edridge-Green insists on the necessity of using color names in color tests. A man must be able to think that a light is red before he can act on it, and it is just the same as if he had made the observation out loud. Without their use normal individuals may fail in these usual tests.

Medical and Surgical Monitor, Indianapolis, Ind.

December 15, 1902.

64 Tubercular Hip-Joint Disease. Edmund D. Clark.
65 *Abortive Treatment of Felon by the Application of Alcohol Under Exclusion of Air. Joseph R. Eastman.
66 A Series of Clinical Reports—Motor Neurosis—Fracture of Olecranon Process, and Gallstone. Thomas B. Noble.
67 Has the Medical Profession Kept Pace with the Progress of Civilization or Has It Lost Its Prestige? (To be continued.) J. T. Montgomery.
68 Report of a Case of Epilepsy, Treated by Electricity and Suggestion. B. Elizabeth Malone.
69 Guaiacol in Typhoid Fever. A. T. Stewart.

65. **Felon.**—Eastman calls attention to the treatment which he observed in Von Bergmann's Polyclinic in 1897, with alcohol and air exclusion. The method is simple. The involved phalanx should be covered with a thin layer of sterilized absorbent cotton saturated with alcohol. Over this a thin rubber fingerstall should be applied, rolled on itself from the open end toward the apex and applied over the cotton by unrolling. Of course, where there is suppuration and in severe septic cases, the tissues should be promptly and deeply incised, but in simple incipient cases incision may be not only unnecessary, but reprehensible. It is wise to avoid a tender scar on the palmar surface of the finger.

Alienist and Neurologist, St. Louis, Mo.

November, 1902.

70 Outlines of Psychiatry in Clinical Lectures. (To be continued.) C. Wernicke.
71 The Prognosis of Mental Diseases. George Ilberg.
72 *A Case of Peripheral Abducens Palsy. Wendell Reber.
73 *Kleptomania and Collectivism. James G. Kiernan.

72. **Abducens Palsy.**—Reber reports a case which he says must be regarded as an instance of such palsy, if it exists. His experiences with other cases has led him to become skeptical as to the proper reference of these conditions as a true morbid entity.

73. **Kleptomania.**—Kiernan describes the condition of kleptomania, pointing out the temptation of the bargain stores to a certain class of morbid women, to whom the desire of acquisition of certain articles is absolutely without reference to profit. He thinks that in cases where kleptomania is pleaded, the question of mental instability should be thoroughly studied. There is no need for new legal principles, the common law properly interpreted is ample to meet the cases. He associates a sexual origin with these conditions in some cases, and this psychologic factor underlies some thieving during pregnancy.

Occidental Medical Times, San Francisco.

December, 1902.

74 *On Flatfoot; Its Mechanics and Treatment. James T. Watkins.
75 Cytodiagnosis and Its Application in the Children's Hospital, San Francisco. Eleanor F. Preston.
76 *Intestinal Anastomosis: Demonstration of Connell Suture. Thomas W. Huntington.
77 A Note Regarding Subpracondyloid Fractures of the Humerus. H. M. Sherman.
78 *Kraurosis of Anus. George L. Fitch.
79 A Case of Glanders in the Human Subject. H. A. L. Ryfkogel.

74. **Flat Foot.**—Watkins' article is an exceedingly elaborate discussion showing the pathology, causes and treatment of weak foot. To be properly utilized, it should be studied in the original, as it can not very well be satisfactorily abstracted.

76. **Intestinal Anastomosis.**—Huntington illustrates the Connell suture and knot within the lumen, and reports his experience. He considers it one of the best, if not the best method we have for intestinal anastomosis, and quotes Murphy in conclusion, who says that if suturing is to be used at all he believes the Connell suture has advantages over any other with which he is conversant.

78. **Kraurosis Ani.**—Fitch reports a case of this condition which has not been before noticed in this particular anatomical situation. It occurred in an adult Chinaman, and the only apparent cause for it was a slight debauch. He has seen a case where both the vulva and anus were involved together, but none before in which the anus alone was implicated.

Mississippi Medical Record, Vicksburg.

January.

80 *Some Unusual Phenomena Observed in Three Typhoid Cases. H. L. Sutherland.
81 The State Board of Health: Its Opportunity. H. M. Folkes.

80. **Typhoid.**—Three cases with unusual symptoms are reported by Sutherland. In one there were convulsions, and after apparent improvement a repetition ending in death. The temperature range was not high. There was no serious bowel lesion. The characteristic symptoms of meningitis were not in evidence. Tetany was present for a time, but it is not generally serious. The diagnosis of typhoid was by the Widal reaction. In the second case there was, with atypical symptoms of typhoid, the normal occurrence of the menstrual period, which is unusual. In the third case there were unusual symptoms of temporary mental aberration. The patient's temperature was only once up to 100. He thinks we should be especially careful where there is any possibility of typhoid fever to avoid the diagnosis of insanity, which may be simulated by the delirium of the disease, while other symptoms are not very marked.

Nashville Journal of Medicine and Surgery.

December, 1902.

82 *Sequelæ of Typhoid Fever as Related to the Eye, with Special Reference to the Accommodation. George H. Price.

82. **Eye Lesions of Typhoid.**—Price reports cases with comments on the accommodation disorders following typhoid. He discusses the subject at length, quoting largely from Nichols' work published in the *Journal of Experimental Medicine* of 1899, and holds with him that the trouble is primarily a neuritis due to toxins acting on the neurons and motor region of the spinal cord. The principal means of combating the condition, he holds, lies in preventive measures, and some internal drugs during the progress of the disease that will prevent its complications. During convalescence he suggests that patients refrain from anything that would add to the nervous strain or tax the muscular mechanism until it is able to stand the strain.

Proceedings of the Pathological Society of Philadelphia.

December, 1902.

83 *The Pathology of the Tissue Changes Induced by the X-Ray. A. G. Ellis.

84 A Preliminary Report upon the Simulation of Aneurism by Atheroma and Tortuosity of the Arch of the Aorta. Joseph Sailer and G. E. Pfahler.
85 Pyloric Carcinoma, with Symptoms Simulating Gastrocolic Fistula. D. L. Edsall and C. A. Fife.
86 Round Worms (Ascaris Lumbricoides) from a Patient with Typhoid Fever. David Riesman.

83. **X-Ray Tissue Changes.**—This article, which is of the nature of a preliminary report, first notes the observations of others and their opinions in regard to tissue changes from the *x*-rays and then reports four cases which were carefully examined. Ellis finds necrosis of cells and trabeculæ of a varying degree. In Case 1 there is also marked fatty degeneration. In three cases there was increase of elastic tissue before and after exposure. In one case there were fewer areas of lymphocytic infiltration after exposure, and about equal numbers before and after in others. A tendency to occlusion of vessels by deposits on their inner surfaces, marked in some cases. Practically entire absence of infiltration of polymorphonuclear leucocytes. These findings, he remarks, do not hardly warrant conclusions, but a few thoughts suggest themselves. The blood vessel changes, on which Beck and others lay stress, seem hardly to account for the accompanying tissue necrosis, though endarteritis is probably induced by the *x*-ray. He thinks the possibility is suggested of their being similar lesions from the same influence instead of standing in relation of cause and effect. The presence of immense number of cocci and bacilli in the tissues in one case after twenty exposures of the *x*-ray would argue against the bactericidal power of the ray. It should be said, however, that the pathogenicity of these organisms was not proven. The unsatisfactory clinical results, as well as the slight microscopic changes in Case 3 can probably be attributed to the extremely numerous keratinized areas or "pearls." This emphasizes the importance of curetting or cutting away diseased tissue, whenever feasible, before using the *x*-ray.

Chicago Medical Recorder.

December 15, 1902.

87 *Surgical Treatment of Hemorrhagic Pachymeningitis. John C. Munro.
88 *The Gravity of Bronchitis in Elderly Men and the Safety-Valve Action of Relative Tricuspid Insufficiency, with Report of a Case. Robert H. Babcock.
89 *Albugineotomy in Chronic Orchitis with Report of Case. Emanuel J. Senn.
90 *Report of a Case of Ventral Fixation, Pregnancy, Invagination of the Uterus, Death and Autopsy. Wm. E. Holland and Byron Robinson.
91 *X-Ray Tube, Shields, and Specula for Treating Cancer of the Rectum and Other Cavities. J. Rawson Pennington.
92 *The Relation of Gonorrhea to Tuberculosis of the Genito-urinary Tract. Daniel N. Eisendrath.
93 A Case of Early Rupture of Tubal Pregnancy. Henry Banga.
94 Doctors' Business Methods and the Collection of Their Accounts. C. F. Meyer.

87. **Hemorrhagic Pachymeningitis.**—Munro analyzes cases from a recent record of the Boston City Hospital and discusses the disorder. The difficulties of diagnosis, especially of getting histories, are noted, and its relation to trauma, syphilis, etc. Trephining, he thinks, is the only method to be considered. The prognosis is not good at best. The following are his conclusions:

1. Hemorrhagic pachymeningitis is found in the insane and in infants, but for the most part in men not insane after middle life.
2. Alcohol, syphilis, acute and wasting diseases, and trauma apparently bear some causative relation.
3. The symptoms are those of diffuse subdural hemorrhage, coming on slowly, producing mental irritation, spasm and rigidity of the extremities, convulsions, and, later, paralysis, the sequence being more or less irregular.
4. The cranial nerves are not liable to be affected.
5. The treatment is surgical, and should be instituted as early in the disease as possible.
6. Without operative relief in cases with pressure symptoms the prognosis is practically hopeless. Early operation is not serious and gives the best chance of recovery.

88.—See abstract in THE JOURNAL, xxxix, p. 1478.

89. **Albugineotomy.**—Senn reports a case of chronic orchitis treated by albugineotomy. He thinks that this method is often better for the relief of tension, drainage and resolution of primary pathologic products than castration, which is too frequently resorted to. Albugineotomy should be tried and will be found successful in the majority of cases if the entire organ is not too seriously involved. In acute orchitis in the absence of suppuration, incision should not be performed. In performing future operations of this nature he would modify the technic by scarifying the parietal tunica vaginalis and attaching this surface to the testicle by several catgut sutures through the cut margins of the tunica albuginea, thus facilitating a firmer and more rapid organic union between the two structures.

90.—See abstract in THE JOURNAL, xxxix, p. 1478.

91. **X-Ray Work.**—Pennington describes his apparatus, especially the shields for the tube.

92. **Genito-Urinary Tuberculosis and Gonorrhea.**—Eisendrath offers the following conclusions from his study of the cases here reported and the literature:

1. That in patients suffering from an acute gonorrhea, there may be an almost imperceptible transition into a malignant type of tuberculosis.
2. That subacute or chronic gonorrhea may mask the presence of a tuberculosis. That these, as well as the acute form, may act as predisposing, and even at times as exciting, causes of tuberculosis.
3. In patients who show evidence of local complications of gonorrhea, such as prostatitis, vesiculitis, cystitis or epididymis, one should always bear in mind the possibility of tuberculosis, and examine the urine for tubercle bacilli, if antigonorrheal treatment causes no improvement.
4. In patients with marked tubercular history, an attack of gonorrhea should be carefully watched, and the prognosis be guarded.
5. Gonorrhea, both in the male and female, often prepares the soil for a later invasion of the tubercle bacillus.

Journal of Medical Research, Boston.

December, 1902.

95 On Amphophile Leucocytogenesis in the Rabbit. Walter R. Brinckerhoff and E. E. Tyzzer.
96 On the Use of Clay Models to Record Muscular Variations Found in the Dissecting Room, with a Note on Two Cases of M. Sternalis and Its Influence on the Growth of M. Pectoralis Major. Joseph M. Flint.
97 *A Study of the Distribution of the Colon Bacillus of Escherich and of the Sewage Streptococci of Houston in Polluted and Unpolluted Waters. C. E. A. Winslow and M. P. Hunnewell.

97. **Colon Bacillus.**—From their studies of the subject, including a review of the previous publications, and description of the method of analysis in examination of 157 samples of apparently unpolluted water and 50 samples of obviously polluted water, Winslow and Hunnewell conclude that the use of large samples in applying the colon test is not of advantage in a sanitary analysis of drinking water. The proportion of lactose fermenting organisms and of colon bacilli is increased in the unpolluted waters by the method, and waters of good quality are likely to be condemned, while in polluted water the comparative proportion of bacilli ordinarily present are less during incubation of large samples, and they appear to actually better advantage by the use of 100 c.c. with preliminary incubation in phenol broth. In polluted waters, it is evident that even the incubation of a single centimeter for twenty-four hours in dextrose broth may lead to the suppression of colon bacilli. The idea suggests itself that in the routine sanitary examination the use of dextrose tube alone, with simple determination of the gas formula, or the direct plating of the water in litmus-lactose-agar, without preliminary incubation, might give more useful practical results in some cases than the usual procedure. It is desirable that more comparative work should be done on these tests. It is unsafe to assume that red colonies on the litmus-lactose-agar plate indicates the presence of organisms of the colon group. Subcultures should be made whenever it is desired to form any idea as to what groups are represented. Comparison of the results of analysis of 1 c.c. samples shows a striking difference in the distribution of the sugar-fermenting organisms in general. It seems that bacteria capable of growing at the body temperature and fermenting dextrose and lactose are only infrequently present in unpolluted waters. They also show that by the method employed, *Bacillus coli* is very rarely found in 1 c.c. samples of unpolluted waters. This confirms the observations of Smith and the English bacteriologists as to the parallelism between the numbers of colon bacilli present in a water and the extent of its contamination. When *Bacillus coli*, as defined by the tests noted, is found in such abundance as to be isolated in a large proportion of cases from 1 c.c. of water, it is reasonable proof of the presence of serious pollution. The group of streptococci and staphylococci seems to be associated with sewage pollution when present in any number. While the principal object of the analysis was to find *Bacillus coli*, it seems probable that these two groups of sewage organisms normally occur together, and that when this is the case gas will be

formed by the *Bacillus coli* in the first fermentation tube. When both colon bacilli and streptococci are present, the latter apparently overgrow the former during the preliminary incubation. The presence of either one, then, becomes significant. It is desirable that the occurrence of the streptococcus, as well as the colon bacillus, should be noted in sanitary water analysis. With these two apparently characteristic sewage forms, and with perhaps also the *Bacillus sporogenes*, the bacteriologist finds himself in a better position to draw reliable conclusions as to the antecedents of a water sample than has ever before been the case.

American Gynecology, New York.

December, 1902.

98 *Ureterovesical Anastomosis: An Improved Method; Report of Two Cases. Guy L. Hunner.
99 *Electrothermic Hysterectomy for Cancer. Andrew J. Downes.
100 *The Use of the Electric Cautery Clamp in the Treatment of Cancer of the Uterus. Charles P. Noble.
101 *Conservative Operations upon the Ovary. L. H. Dunning.
102 *The Curse of Gonorrhea. Joseph T. Johnson.
103 *Parotitis Following Abdominal Section. W. H. Morley.

98. **Ureterovesical Anastomosis.**—Hunner reports two cases and describes in detail his method of operating. He first severs the ureter at the desired point and controls hemorrhage. The renal end of the severed ureter which is to be inserted is split along its anterior and posterior walls for a distance of one centimeter, thus forming two lateral flaps. An incision two or three centimeters long is made in the fundus of the bladder, which may be called the "working incision." After choosing a point where the ureter will enter the bladder wall, usually high up, and as laterally as possible, a small incision is made by inserting a scalpel through the working incision and pushing it through the bladder wall from within. Two mosquito forceps are then passed through the working incision and out through the anastomosis opening, each grasping one of the lateral flaps of the ureter. Next comes the first two of the four sutures for the anastomosis; these are mattress sutures preferably of black silk, which pass through the serous and muscle coats only, and serve to draw the ureter into the bladder and to fasten its anterior and posterior walls to the anastomosis opening in the bladder wall. The more difficult posterior suture is first passed. It enters the bladder wall from the rear, and after penetrating the serosa and muscularis leaves the wall very close to the anastomosis opening; it then takes a similar hold on the posterior ureteral wall, about one-half centimeter above the level of the split, and crossing above the split, it grasps the posterior wall again and descends to enter the bladder wall on the other side of the anastomosis opening, entering this time from an anterior direction and passing posteriorly. A similar suture is set for the anterior ureteral wall. After denuding the flaps of their serous coats, the forceps draw them into the bladder, and the two external sutures are tied. Care must be exercised in passing the suture twice through either the anterior or posterior ureteral wall not to get the two strands too widely separated so as to constrict the lumen when they are tied. They make a very firm anastomosis, but the addition of a square suture fastening each lateral flap to the bladder wall is a simple procedure and gives to the operation its claim to perfect safety. The flaps, still held by the forceps, are everted into the working incision and a rectangular piece of the bladder mucosa, corresponding to the size of each lateral flap, is cut from either side of the anastomosis opening. The flap sutures penetrate all the coats of the flap except the removed serosa and all coats of the bladder except the excised mucosa. They should be passed near the end of the flap to interfere as little as possible with the bladder circulation about the anastomosis. They may be either silk or catgut. If of silk, they must be tied inside, and the cut ends left about two centimeters long, and then through the cystoscope the loops may be cut and removed later. Unless suprapubic cystostomy is indicated the working incision is now closed. Some variations in individual cases may be required and dealt with according to indications. He reports two cases and discusses the various methods. The article is illustrated, which makes the description more clear.

99. **Electrothermic Hysterectomy for Cancer.**—Downes describes the electrothermic angiotribe by which he has performed 5 hysterectomies for cancer; 3 are here reported for the first time. He has also assisted other physicians in similar operations. He describes his instruments which have already been mentioned elsewhere.

100.—See abstract in THE JOURNAL, xxxix, p. 1411.

101. **Conservative Operations on the Ovaries.**—Dunning questions the advisability of always leaving portions of the ovary as a routine practice. The danger of sepsis is considerable. He reports cases and offers the following conclusions:

1. Operations on the ovaries that preserve the menstrual and reproductive functions should be employed in lieu of complete extirpation, especially in cases of extirpation of one ovary, and where the remaining ovary shows, as pathological changes, a single cyst of moderate size, or several small cysts, or a single small hematoma. 2. Healthy displaced ovaries may, with advantage, be anchored in as nearly a normal position as possible by stitching them with fine catgut to the posterior surface of the broad ligament, or by shortening the infundibulo pelvic ligament. 3. Cases of sterile married women and married women who are using means to avoid pregnancy are unfavorable subjects on whom to do conservative operations on the ovaries. 4. The writer believes that in pus cases, such conservative operations should, as a rule, be avoided.

102.—See abstract in THE JOURNAL, xxxix, p. 1339.

103. **Parotitis After Abdominal Sections.**—From the study of a case described in this article and other cases elsewhere reported, Morley concludes:

1. There is an intimate relation between the parotid gland and the abdominal and pelvic viscera. 2. This close relation probably exists through the medium of the sympathetic nervous system. 3. Suppuration or non-suppuration of the parotid gland in these cases depends entirely on the local conditions in the gland. 4. This complication may follow any surgical operation on the viscera of the abdomen and pelvis, but it occurs more often after an ovariotomy. 5. The patient's life is not jeopardized *per se* by the occurrence of this complication. 6. The appearance of the parotid bubo usually marks a turning point in the disease.

Illinois Medical Journal, Springfield.

January.

104 *The Prognosis and Treatment of Suppurative Pleurisy. E. Fletcher Ingals.
105 *Technic, Indication and Limitations of Vaginal Section and Drainage for Pelvic Disease. Thomas J. Watkins.
106 *The Unsurgical Features of Vaginal Hysterectomy. S. C. Stremmel.
107 Intercommunicability of Tuberculosis. D. J. D. Mandeville.
108 *Exophthalmic Goiter. L. Harrison Mettler.
109 *A Plea for More Accurate Diagnosis of Cholelithiasis. J. H. Stealy.
110 The Gastrointestinal Type of Influenza. Henry F. Langhorst.
111 *Repeated Small Hemorrhages as a Cause of Severe Anemia. James B. Herrick.

104. **Empyema.**—Ingals' article is noticed editorially.

105.—This article has appeared elsewhere. See THE JOURNAL, xxxix, ¶83, p. 865.

106.—Ibid., title 116, p. 507.

108.—Ibid., ¶50, p. 451.

109.—Title 114, p. 507.

111.—This article appeared in THE JOURNAL, xxxix, p. 767.

New Yorker Medicinische Monatsschrift.

November, 1902.

112 *Ueber einige Erkrankungen der Fingernägel. F. J. Leviseur
113 Ueber die nervose (s. functionelle) Dyspepsie. Prof. Schule.

112.—This article has appeared elsewhere. See THE JOURNAL, xxxix, ¶153, p. 1420.

Proceedings of the Philadelphia County Medical Society.

December, 1902.

114 *The Existence of Typhoid Fever in Atlantic City. Philip Marvel.
115 *Cholelithiasis. John B. Deaver.
116 Electrothermic Hemostasis in Hysterectomy for Carcinoma. Andrew J. Downes.
117 Report of a Case of Chronic Splenic Anemia. James Ely Talley.
118 The Meaning and Significance of Leucocytosis. Robert N. Willson.

114.—This article has appeared elsewhere. See THE JOURNAL, xxxix, title 2, p. 1615.

115.—Ibid., ¶7, p. 1646.

Medical Sentinel, Portland, Ore.

October, 1902.

119 The General Treatment of Pulmonary Tuberculosis. E. P. Hershey.
120 Open-Air Treatment of Tuberculosis, Especially by the Tepee Method. Harry Lane.
121 The Surgical Treatment of Goiter. Andrew C. Smith.
122 Gastroptosis: A Method of Suspending the Stomach in a Hammock Made of the Great Omentum. R. C. Coffey.
123 The Diagnosis of Sanity. J. Allen Gilbert.

124 Diabetes. Otto S. Binswanger.
125 The Corset and Pulmonary Tuberculosis. Albert Abrams.

Western Medical Review, Lincoln, Neb.

December 15, 1902.

126 Two Cases of Brain Abscess. F. S. Owen.
127 Anatomical Essentials in Voice Culture. J. P. Williams.
128 How Shall We Treat Sepsis Following Abortion and Labor? W. O. Henry.
129 Premature Labor and Septic Infection. J. A. Andrews.
130 A Case of Extrauterine Pregnancy. O. L. Wilson.

Journal of the Michigan State Medical Society, Detroit.

December, 1902.

131 Some Triumphs and Defeats. W. H. Haughey.
132 The Importance of Early Diagnosis and Treatment of Ear Diseases in Infancy and Childhood. A. E. Bulson.
133 What Is the Conservative Treatment of Mastoiditis? Don M. Campbell.
134 Some Remarks on the Treatment of Mastoid Diseases. Robert W. Gillman.
135 The Advisability of Early Surgical Interference in Acute Tympano-Mastoiditis. Emil Amberg.
136 Curettings—The Value and Necessity of Microscopic Examinations. R. Grace Hendrick.
137 Conservatism in the Treatment of the Inferior Turbinate. J. Vernon White.

Mobile Medical and Surgical Journal.

December, 1902.

138 Some Further Remarks on the Medical Supervision of the Education of Boys and Girls. D. L. Wilkinson.
139 Difficulties in, and the Management of Pernicious Malarial Fevers, with and without Idiosyncrasy for Quinine. G. Heustis Fondé.
140 Transmission and Prophylaxis of Diphtheria. Charles A. Mohr.

The Post-Graduate, New York.

December, 1902.

141 The Present Treatment of Fractures of the Forearm. Carter S. Cole.
142 Objects and Aims of Post-Graduate Instruction in Medicine. Joseph Collins.
143 Examination of the Urine. Hermann Lenhartz.
144 Some Notes on Aneurisms of the Larger Vessels and Their Branches. Thomas E. Satterthwaite.
145 A Clinical Lecture on the Treatment of Typhoid Fever. Edward W. Peterson.
146 Weight and Diet in Pulmonary Tuberculosis. John F. Russell.
147 Eneuresis in Children. Herman B. Sheffield.

Proceedings of the New York Pathological Society, New York.

November, 1902.

148 Observations on Adrenalin Glycosuria, and Certain Relations between the Adrenal Gland and Carbohydrate Metabolism. C. A. Herter.
149 A Melanoma in the Cow. V. A. Moore.
150 A Case of Quartan Malaria, with Demonstration of Specimens. F. C. Wood.
151 A Case of Mixed Quartan and Estivoautumnal Malaria: A Meningocele. James Ewing.

Medical Standard, Chicago.

January.

152 Results and Technic in Treating Epithelioma with X-Rays. Emil H. Grubbe.
153 Practical Dietetics. A. L. Benedict.
154 The Treatment of Chronic Nephritis by Electricity. C. S. Neiswanger.
155 Diseases of the Lachrymal Apparatus. Epiphora and Lachrymation. Casey A. Wood and Thomas A. Woodruff.
156 Landmarks of the Tractus Genitalis. Byron Robinson.
157 Pain and Its Indications. E. C. Hill.

FOREIGN.

Titles marked with an asterisk (*) are abstracted below. Clinical lectures, single case reports and trials of new drugs and artificial foods are omitted unless of exceptional general interest.

Archives Generales de Medecine, Paris.

1 (LXXIX, October.) Contribution à l'étude cytologique des épanchements (effusions) pleuraux des Brightiques et des cardiaques. F. Barjon and A. Cade.
2 *Sur le gigantisme. H. Meige.
3 (November.) Climatology of French China. H. Girard.—Le Haut-Tonkin.
4 De la splénomégalie chronique avec anémie et myélémie. P. E. Weil and A. Clerc.
5 Détermination approximative des purines urinaires par le purinomètre. J. Walker Hall.
6 Le technique de la mesure de la pression sanguine. N. Vaschide and J. M. Lahy. (Commenced in No. 9. 80 cuts.)

2. **Giantism.**—Meige protests against the proposal to foster marriages between giants. He points out that the excessive osteogenetic function is frequently accompanied by more or less general disturbances, showing that it has a tendency to be pathologic. When the excessive osteogenetic function affects the shafts of the long bones, the result is a giant, but when merely the ends of the bones are involved acromegaly is the result. Giants are, therefore, of the infantile or acromegalic type, according as osseous union between the shaft and the epiphysis occurs early or late.

Archiv fur Gynaekologie, Berlin.

7 (LXVII, 3.) *Leucocytosis During Pregnancy and the Puerperium. C. Hahl.—Untersuchungen über das Verhältniss der weissen Blutkörperchen während der Schwangerschaft, der Geburt und dem Wochenbette.
8 Studien über den Eiweiss-, Phosphor- und Salzumsatz (transformation of albumin, phosphorus and salt) während der Gravidität. B. H. Jägerroos.
9 Ueber Elephantiasis vulvæ chronica ulcerosa (syphilitica). G. Bamberg.
10 *Die Herkunft (origin) des Fruchtwassers (amniotic fluid) im menschlichen Ovum. A. Silberstein.
11 Zur Therapie der Eklampsie. A. Ostrcil.
12 Ergotin in Obstetrics. H. Palm.—Untersuchungen über die Bedeutung des Mutterkorns und seiner Präparate für die Geburtshilfe, mit specieller Berücksichtigung des Sphacelotoxins.
13 Ueber die forcirte Dilatation der Cervix mittelst des Dilatatoriums von Bossi. O. Lederer.
14 Ibid. Keller.
15 Zur Casuistik des Abortus provocatus. B. S. de Smitt.

7. **Leucocytosis During Pregnancy.**—Hahl found in 36 patients that the number of white corpuscles was somewhat increased during the last days of pregnancy. Marked hyperleucocytosis was observed with the onset of labor, chiefly due to an increase in the proportion of the polynuclear neutrophile cells. During the puerperium this hyperleucocytosis gradually subsided and normal conditions were re-established by the end of the first week.

10. **Origin of Amniotic Fluid.**—Silberstein's article won the university prize at Berlin for 1901. It is a study of a case of twins, one oligohydramnic and the other polyhydramnic, and suggests that the difference in the amount of fluid observed was due to the fact that one fetus urinated more profusely than the other. In pathologic cases such as these Nature allows us a peep behind the scenes, he remarks, and what we see establishes Gusserow's theory that the amniotic fluid is essentially a product of the fetal organism and of the kidneys in particular.

Archiv fur exp. Pathologie, Berlin.

16 (XLVIII, 3-4.) Origin of Fat in Fatty Degeneration of Heart. Leick and Winckler.—Die Herkunft des Fettes bei Fett-Metamorphose des Herzfleisches.
17 Ueber den Stoffwechsel von Thieren (metabolism in animals) während der Reconvalescenz. Schwenke.
18 Zur Frage der Glykokoll-Bildung (formation) aus Leucin im thierischen Organismus. R. Cohn.
19 *Ueber die Castration und ihre Folgen (consequences). H. Lüthje.
20 *Relations between Renal Function and Albuminuria. M. Cloetta.—Ueber die Beziehung zwischen Functionsleistung der Niere und Albuminurie.
21 Ueber das Kaffee-Oel und die physiologische Wirkung des darin enthaltenen Furfur-Alkohols. E. Erdmann.
22 Ueber den Einfluss (influence) der Digitalis-Körper auf die Hirn- (brain) Circulation. R. Gottlieb and R. Magnus.
23 Ueber das Acocantherin; Africanische Pfeilgift (arrow poison). E. S. Faust.
24 Behavior of Solid Gastrointestinal Contents in Fasting Rabbits. Swirski.—Ueber das Verhalten der festen Magendarminhaltes bei absoluter Carenz der Kaninchen.

19. **Effects of Experimental Castration.**—Lüthje castrated two male and two female dogs and kept control pairs out of the same litters. As the animals grew up it was impossible to detect any difference in metabolism between the castrated and the uncastrated animals during the three years that elapsed before they were killed. There is evidently a substitution of function by other organs in respect to metabolism and no specific influence can be attributed to the generative glands. No difference was apparent between the animals in regard to either the composition of the blood, amount of hemoglobin or iron, nor in the behavior, shape, growth or disposition.

20. **Relations Between Functional Renal Disturbances and Albuminuria.**—Cloetta found on administering aloin, cantharidin or potassium chromate to rabbits that while these various poisons caused different functional disturbances in the kidneys yet the microscopic picture was almost identical in each. In the experiments with aloin, the disappearance of the albumin was not necessarily followed by resumption of normal renal function. Lines representing the freezing-point and the albuminuria ran parallel at first and then in some cases abruptly intersected each other. This indicated that notwithstanding apparent improvement of the kidney lesion the organ was incapable of resuming its function. Such a condition may

explain certain cases of sudden death in acute nephritis when the patient is apparently improving. The experiences confirm the assumption that the noxious influences responsible for the production of acute nephritis may affect the renal function in widely diverse ways. If we can learn the rules governing the differences in this respect we may be able to discover the inner secrets of the pathologic renal function, beyond the reach of pathologic anatomy.

Archiv fur die gesammte Physiologie, Bonn.

25 (XCII, 1-2.) The Blood at Altitude of Davos. H. J. A. Van Voornveld.—Das Blut im Hochgebirge.
26 Ueber die physiologische Wirkung einiger Bestandtheile des Hopfens (elements in hops). K. Farkas.
27 (Nos. 3-5.) Behavior of Glycogen in Boiling Potash. E. Pflüger.—Ueber das Verhalten des Glykogens in siedender Kalilauge.
28 Glycogen in Cartilage of Mammals. E. Pflüger.—Ueber den Glykogen-Gehalt der Knorpel der Säugethiere.
29 Beitrag zum Glykogen-Gehalt des Skeletts. M. Händel.
30 Beitrag zur allgemeinen Muskel- und Nerven-Physiologie. E. Overton.
31 (Nos. 6-7.) Ueber das Ferment der Pylorus-Schleimhaut (mucosa). F. Klug.
32 Wassergehalt (proportion of water) und Organ-Function. A. Durez.
33 Untersuchungen über den Einfluss (influence) wechselnder Blutfülle (varying amount of blood contained) auf die Elasticität der Lunge. K. v. Stejskal.
34 Ueber die Unentbehrlichkeit (indispensability) von Natrium- (oder Lithium) Ionen für die Contractions-Act des Muskels. E. Overton.
35 Relations between Height of Lift and Duration of Contraction in Fatigue of Muscles. A. Lohmann.—Ueber die Beziehungen zwischen Hubhöhe und Zuckungsdauer bei der Ermüdung des Muskels.
36 (Nos. 8-9.) Ueber die vermeintliche Existenz von "bathmotroper" Herz- (heart) Nerven. H. E. Hering.
37 Weitere Mitteilungen über Antagonisten des Curarins. C. J. Rothberger.
38 Die chemische Demarcations-Strom in toxicologischer Beziehung. M. Henze.
39 Untersuchungen über die Verwerthbarkeit eines Delphinenin-Präparates an Stelle (in place of) des Curare in der Muskelphysiologischen Technik. A. Lohmann.
40 (Nos. 10-12.) Results of Balloon Trips for Physiologic Research. H. v. Schroetter and N. Zuntz.—Ergebnisse 2 Ballonfahrten.
41 Untersuchungen zur Thermo-Dynamik der bio-elektrischen Ströme (currents). J. Bernstein.
42 Ueber verminderte Leitungsgeschwindigkeit (diminished rapidity of conduction) des in "Ringerscher" Lösung überlebenden (surviving) Nerven. H. Rietschel.
43 Results of Experimental Section of Sensory Roots. L. Merzbacher.—Folgen der Durchschneidung der sensiblen Wurzeln im unteren Lumbal-Marke, im Sacral-Marke und in der Cauda equina des Hundes.
44 Influence of Rennet Coagulation on Digestibility of Milk. R. Popper.—Ueber den Einfluss der Labgerinnung auf die Verdaulichkeit der Milch.
45 The Blood at Mountain Altitudes. E. Alderhalden.—Das Blut im Hochgebirge.
46 Die Pupillar-Reaction der Octopoden. R. Magnus.
47 (XCIII, Nos. 1-2.) Zur Geschichte (history) der Glykogen-Analyse. E. Pflüger.
48 Ueber den Nervus depressor als Reflex-Nerv der Aorta. G. Köster and A. Tschermak.
49 Zur Lehre von den secundären Geschlechts- (sexual) Characteren. A. Foges.
50 *Study of Artificial Fertilization of Eggs of the Star-Fish. Jacques Loeb.—Ueber Eireifung, natürlichen Tod und Verlängerung des Lebens beim unbefruchteten Seesternei (Asterias Forbesii) und deren Bedeutung für die Theorie der Befruchtung.
51 (Nos. 3-4.) Action of Potash on Glykogen. E. Pflüger.—Ueber die Einwirkung verdünnter Kalilauge auf Glykogen bei 100 C.
52 Determination of Starch and of Digestibility of Carbohydrates. St. Weiser and A. Zaitschek.—Beiträge zur Methodik der Stärkebestimmung und zur Kenntniss der Verdaulichkeit der Kohlenhydrate.
53 Study of Goose Fat. Ibid.—Beitrag zur Kenntniss der chemischen Zusammensetzung und Bildung des Gänsefettes.
54 Ueber die Entwicklung der locomotorischen Coordinations-Thätigkeit im Rückenmark (spinal cord) des Frosches (of the frog). E. Babak.

50. **Artificial Fertilization of Eggs of Starfish.**—Loeb refers to his success in inducing by means of certain ions the development of normal, viable embryos out of unfertilized eggs, but adds that all attempts to induce it by means of enzymes have hitherto failed. The research on the eggs of the starfish, described in the present communication, confirms his previous assumption that the fertilizing action of the spermatozoon depends on its bringing substances into or causing conditions in the egg which accelerate the course of certain, possibly synthetic, processes in the egg. This accelerating influence might likewise be induced by certain ions, and he has proved that this possibility can be artificially realized. He has established in regard to the ova of the starfish that the mature but unfertilized specimens rapidly die in sea water, while the immature and the mature fertilized ova continue to live. This occurs in both natural and sterilized sea water. The ova do not ripen until ejected from the ovary, as oxygen and free hydroxyl ions are apparently necessary for their ripening. When the ripening is artificially hindered by lack of oxygen or by acid environment, the unripe ova retain their vitality much longer than the ripe, unfertilized ones. Fertilization by a spermatozoon or by chemical or physical intervention, prolongs the life of the ovum. The process of ripening, on the other hand, entails the death of the ovum unless it becomes fertilized. Treatment with dilute acid which induces parthogenesis of the mature ovum, checks the ripening process in immature specimens. He thinks that these facts of the ripening of the egg, its natural death and the prolongation of the life of the unripe egg, throw a certain light on the mechanism of the phenomenon of fertilization.

Archiv fur Kinderheilkunde, Stuttgart.

55 (XXXIV, 5-6.) Geschichte (history) des St. Ludwig Kinder-Hospitals in Cracow. M. L. Jakubowski.
56 Einige Formeln für das Kindesalter (formulas for childhood). S. A. Van Leer.
57 Ueber Buttermilch als Säuglingsnahrung (infant feeding). W. Caro.
58 Fall von Persistenz des Ductus Botalli. H. Sidlauer.
59 Eigenthümliches (peculiar) Beginn einer tuberculösen Meningitis. E. Schlesinger.
60 Portative orthopädische Apparate in der Kinderheilkunde (in pediatrics). E. Mayer.
61 (XXXV, Nos. 1-2.) *Untersuchungen über die Viscosität des Sputums und ihre Beziehung zum Husten (relation to cough), insbes. zur Pertussis. L. Neumann.
62 Beiträge zur Lehre von der cyklischen Albuminurie. L. Schaps.
63 Zur Kenntniss der Magensaft- (gastric juice) Secretion im Säuglingsalter (infancy). A. H. Meyer (Copenhagen).
64 Weitere Beiträge zum Situs transversus und zur Lehre von den Transpositionen der grossen Gefässe des Herzens (large cardiac vessels). P. Geipel.

61. **Connection Between Viscosity of Sputum and Coughing.**—Neumann found in examining nine children with whooping cough that the coughing spasms were always associated with lesser viscosity of the sputum. As the phlegm became thicker the spasms did not recur. He suggests the possibility that the greater fluidity of the sputum and its consequent movability and expansion may be the cause of the coughing paroxysm.

Schmidt's Jahrbucher

65 (274, Nos. 1-2.) Sensory Functions of Skin. S. Garten.—Der jetzige Stand der Lehre von den Sinnesfunktionen der Haut.
66 Ueber Diabetes Mellitus. K. Grube.
67 Der Typhus abdominalis nach Benutzung der Literatur von 1897-1900. H. Starck.
68 (No. 3.) Recent Research on Hematin. M. Henze.—Die Ergebnisse der neueren chemischen Arbeiten auf dem Gebiete des Blutfarbstoffes.
69 (275, Nos. 1-3.) Review of Progress of Internal Medicine in 1901. Senator and Richter.—Bericht über die wichtigeren Forschungsergebnisse auf dem Gebiete der inneren Medicin des Jahres 1901.
70 Recent Progress in Otology. Blau.—Bericht über die neueren Leistungen in der Ohrenheilkunde.
71 (276, No. 1.) Review of Progress in Dermatology. G. Riehl.—Bericht, etc., der Dermatologie von Juli, 1901, bis Juli, 1902.
72 Review of Progress in Balneotherapy, etc. F. C. Mueller.—Bericht, etc., der Balneotherapie, Hydrotherapie und Phototherapie.
73 (Nos. 2-3.) Ueber physiologische Albuminurie. H. Dreser.
74 Therapeutic Courses of Mineral Waters. K. Alberts.—Trinkkuren.
75 Review of Progress in Study of Blood. Zaudy.—Bericht über neuere Arbeiten aus dem Gebiete der Physiologie und Pathologie des Blutes.
76 Criminal Responsibility. Alberts.—Ueber strafrechtliche Zurechnungsfähigkeit.

Therapeutische Monatshefte, Berlin.

77 (XVI, No. 12.) Zur Behandlung der Myopia. R. Liebreich.
78 Proposal for Collective Enquiry in Regard to Frequency of Tabes in Syphilitics. J. A. Gläser.—Vorschlag, etc.
79 Ueber Säure-Behandlung (acids in treatment) des Pruritus. H. Leo.
80 *Zur Freiluftcur (open air treatment) in der Phthisiatrie. Volland (Davos).
81 *Gedanken über die Prophylaxe und Therapie der Tuberculose. E. Fuld.
82 Ueber einige Enzyme wirbelloser Thiere (of invertebrates). W. Fischer.
83 Menschentuberculose und Perlsucht. A. Gottstein.—Critical Review.
84 Intrauterin-Pessarien. E. Falk.
86* Kritische Beiträge zur Diagnose und chir. Therapie der typhösen Darm-Perforation und Perforations-Peritonitis. Miclescu. (Commenced in No. 11.)
87 Theocin.

88 Mesotan.
89 Ueber den Werth des "Hygiama" als Nährmittel (as food). E. Kraus.
90 *Die MSS. der Aebtissen Hildegard von Bingen über Ursachen und Behandlung der Krankheiten. P. Kaiser. (Commenced in No. 6.)

80. **Open-Air Treatment of Tuberculosis.**—Volland believes that much harm is being done by the exaggeration of the importance of fresh air in the treatment of tuberculosis. The patients fail to realize the benefits they should from the sanatorium, as they are constantly allowed to get chilled night and day by the undue importance attached to the benefits of out-of-door air. They are not aware that their vitality is being depressed by the cold air, as they are under the influence of suggestion. Hammer's discovery that the results obtained in his city dispensary actually surpassed those obtained in the sanatoriums should open the eyes of the profession. No one was more astonished than Hammer himself. His patients were too poor to give up the day to lying out of doors, and lived so crowded that the families would have objected if one member had insisted on sleeping with open windows at night. Consequently they did not get chilled to the same extent as the sanatorium patients, and the system was able to cope more effectively with the tubercle bacilli. (Hammer's communication was reviewed in THE JOURNAL, xxxix, p. 284, title 108.)

81. **Bovine Tuberculosis in Prophylaxis of Human Tuberculosis.**—Fuld suggests that the bacillus of "Perlsucht" may yet play an important part in the prophylaxis of human tuberculosis. It seems credible that a system naturally immune to "Perlsucht" might be immunized by means of a bovine tuberculin until it proved refractory to genuine tuberculosis.

86. **Surgery in Typhoid Perforation.**—Miclescu states that about every fourth case of peritonitis due to typhoid perforation and operated on has been cured. Reviewing 226 communications that have been published, he finds that 37 were saved out of 131, that is, about 28.3 per cent. The intestinal lesion is generally single, and surgical intervention should be applied in every case of typhoid perforation. In even the most hopeless cases this treatment postponed the fatal termination.

90. **The MSS. of the Abbess Hildegard.**—This work dates from the twelfth century and is a manual for the etiology and treatment of the ills that flesh was heir to in those days, with suggestions in regard to hygiene, etc. Her remarks show much common sense and intelligent observation.

Therapie der Gegenwart, Berlin.

91 (December.) *Die Behandlung der Nierenstein-Krankheit (renal lithiasis). G. Klemperer.
92 *Zur Therapie der Pneumothorax. G. Zuelzer.
93 Praktische Erfahrungen über Mesotan (Salicylic acid-methyl-oxymethylester), ein Mittel zur percutanen Anwendung der Salicylsäure. E. Reichmann.
94 Therapeutische Erfahrungen über Arhêol in Urologie (alcohol derived from oil of santal). C. Ravasini.
95 Ueber das Helmitol, ein neues Harnantisepticum. P. Rosenthal.
96 Neuere Arbeiten über Hysterie. H. Oppenheim. Critical Review.
97 Rheumatisches Magen und Brustkrampf, sog. Herzspann (gastric and heart spasm). Holfelder.

91. **Treatment of Kidney Stones.**—Klemperer accepts as indications for operation total anuria for twenty-four hours and the onset of acute pyemia. A few cases are on record in which the stone was spontaneously evacuated after forty-eight hours, or even as late as twenty-eight days, but we are not justified in counting on these rare exceptions. He thinks that much injury has resulted from the assumption that renal lithiasis is the expression of a family and hereditary diathesis. It will be found that in nearly every case the abnormal constituents of the urine responsible for the lithiasis can be eliminated from the diet and thus the cause be removed.

92. **Treatment of Pneumothorax.**—Zuelzer describes a case in which the most distressing symptoms were relieved by puncture, but normal conditions could be restored only by repeatedly aspirating with a Bülau siphon drain; the maneuvers continued for several hours.

Zeitschrift fur klinische Medicin, Berlin.

98 (XLVII, Nos. 5-6.) *Die Harn-Cryoscopie in der Diagnosis doppelseitiger Nierenerkrankungen (bilateral renal affections). H. Strauss.
99 Die intracelluläre Glycogen-Reaction der Leucocyten. S. Kaminer.
100 Albuminurie minima und cyclische Albuminurie. L. Kuttner (Ewald's Clinic).
101 Zur Frage der Resorptions-Mechanismen. L. Hofbauer.
102 Influence of Ablation of Kidney on Electric Conductibility of Blood. A. Bickel.—Exp. Untersuchungen über den Einfluss der Nieren-Ausschaltung auf die elekt. Leitfähigkeit des blutes. (Ebstein's Clinic.)
103 Production and Elimination of Glucuron Acid. M. Bial.—Ueber Bildung und Ausscheidung der Glucuronsäure. (Leyden's Clinic.)
104 Beitrag zur Kenntniss der Pentosurie und der Pentosen-Reaction. H. Brat.
105 Gangrän des linken Unterschenkels (left leg) durch Thrombose der Arteria femoralis (wahrscheinlich grippaler Natur) bei einem Diabetiker. M. Loeb.

98. **Study of Freezing-Point of Urine in Bilateral Kidney Affections.**—Strauss has been studying at Senator's clinic for two and one-half years the variations in the freezing-point in various diseases. The tests disclosed great variations in the results even in the same person at different times. They also revealed a certain, but by no means constant, connection between the findings and certain anatomic affections of the kidneys. The quantitative and qualitative behavior of the renal functions under identical conditions of time and of test ingestion of water and of salt, was the aim of the latest research, to discover new points to serve in the diagnosis of anatomic alterations in the kidneys. The subjects had unsalted milk soup for supper the night before, and urinated at 10 p. m. and at 5 and 6 a. m. The next day they ingested 500 c.c. of water, fasting. The second day 10 gm. of cooking salt were added to the same amount of water and taken fasting, and the third day 50 gm. gluton were added to the same amount of pure water. The subjects remained in bed until 11 a. m. and ate nothing until then. The food during the three days of the tests was the same for each subject, and with as little salt as possible. The water test proved most instructive, and he recommends it for general adoption as a valuable aid in diagnosing, although the findings are of course no criterion for the functioning of the kidney at all times, and the test may exceptionally give normal results even in case of severe anatomic alterations. But still, it is a step in the right direction. Strauss establishes the normal freezing-point as 0.91 to 2.43 C. The extremes of range allowed by other investigators have been 0.87 to 2.71. The product of the freezing-point multiplied by the amount of urine in the twenty-four hours, is the most important finding of all, as it indicates the work of the blood-cleansing function of the kidney. This figure is called "V." He found the normal range to be 1,112 to 3,359; the extremes of other investigators have been 766 to 3,770. The percentage of sodium chlorid he found to be normally 0.26 to 2.58; the highest range of other writers has been 0.09 to 2.11. By dividing the freezing-point by the percentage of sodium chlorid he obtained as the normal range 1.01 to 3.54, while others have found it range from 0.98 to 1.69 or 1.83 or 2.33 or even 13.17. Comparing the results of his 150 tests on 16 subjects he noted that a marked and protracted reduction of the functional capacity occurred but rarely, and only associated with edema and with deficient "freezing-point reaction." Extreme oligochloruria usually accompanied the diminished functional capacity and also a pathologically high value for the figure representing the freezing-point divided by the percentage of sodium chlorid. At the same time the elimination of the achlorids was not reduced as a rule. Oligochloruria with its consequences occurred likewise when the organism was unable to eliminate much chlorin on account of inadequate intake or when the elimination in other ways was increased or the sodium chlorid was retained elsewhere in the body in dropsical effusions. We must distinguish, he adds, between a hematogenic or histogenic and the nephrogenic oligochloruria, the same as we distinguish between a hematogenic and nephrogenic oliguria and polyuria. Prolonged oliguria in the absence of anatomic renal affections and edema and not preceded by fasting, is generally normal. The kidneys work atypically, but they work sufficiently. This was observed in several cases of chronic interstitial nephritis. The impression was derived from this research that polyuria is a compensatory re-enforcement of the blood-cleansing function. The edema in such cases fre-

quently varies in strict correspondence with the behavior of "V." There seems to be a tendency in chronic nephritis to maintain the osmotic tension in the urine at the same point on different days.

Correspondenz-Blatt f. Schweizer Aerzte, Basle.

106 (XXXII, No. 20.) *Die Excochleatio uteri im Puerperium. E. Wormser.
107 *Ueber Gallenblasen (gall-bladder) Rupturen in die freie Bauchhöhle (abdominal cavity). M. v. Arx. (Commenced in No. 18.)
108 (No. 21.) Sitz Baths. B. Tschlenoff.—Die Sitzbäder; deren physiol. Wirkung und die Indikationen für ihre Anwendung.
109 Ueber operative Ablatio eines tiefsitzenden erweichten Myoms während der Gravidität. A. Labhardt.
110 Adrenalin. F. S. Hartmann.
111 (No. 22.) *Are We Doing Our Duty in the Campaign Against Tuberculosis as a Disease of the Masses? E. Fischer.—Thun wir unsere Pflicht, etc.?
112 Beitrag zur Casuistik der Traumen durch Elektricität. A. Halt.
113 Dispensing with the Syringe for Subcutaneous Injections.—Volland (Davos).—Die Entbehrlichkeit der Spritze zu subkutanen Injectionen von Heilserum und anderen Flüssigkeiten.
114 Neuer, einfacher, billiger und guter Rheostat. C. Schwalbe (Los Angeles).
115 (No. 23.) Die morphologische Grundlagen (foundations) der Blut-Diagnostik. C. Schindler.—Ein Résumé.
116 Report of International Congress for Medical Electrology and Radiology at Berne, September 1-6.

106. **Curettement of Uterus During Puerperium.**—Wormser tabulates 20 cases and reviews the literature on the subject of curetting the uterus during the puerperium. The results establish that the measure is not indicated in case of retention of membranes nor febris sub partu, nor as a therapeutic measure in case of fever. But it is required in case of hemorrhage, both the severe hemorrhages which follow in the first few days after delivery, and the protracted bleeding in the latter part of the puerperium, rebellious to ordinary measures. The curette must be wide and brutal force avoided. Under these conditions he deems the procedure not only radical and certain but also free from danger.

107. **Rupture of Gall Bladder into the Free Abdominal Cavity.**—A number of cases of subcutaneous rupture of the gall bladder have been operated on according to the literature, including the personal case described by Arx in this article. The symptoms are those of ordinary perforation, with the exception that there are no signs of sepsis. The onset of the collapse is not so sudden as in case of ordinary peritonitis from perforation. In the case personally observed there were no indications of collapse even twenty hours after the perforation was known to have occurred. The temperature was slightly febrile, and there was vomiting, meteorism and pain in the abdomen, in short all the symptoms of paralysis of the intestines, and still the general condition was comparatively good. The tongue was only moderately dry, and there was none of the appearance of distress and depression, the facies Hippocratica, no abrupt variations in temperature, no chills, no enlargement of the spleen. The pulse was strong and did not rise above 110. There was no icterus, no trace of it even in the eyes, and the urine responded normally to the Gmelin test. Between one and two hours after the rupture the gall bladder which had before been palpable, could no longer be distinguished, indicating that the contents had been poured out into the abdominal cavity, while the peritoneum was still free from irritation. The first signs of cholemia appeared the third day in each of the cases. Experimental research has shown that bile thus poured into the abdominal cavity is taken up by the lymphatic vessels and retained by them as a protection to the body, until these vessels become enfeebled and give up the bile to the blood. This occurs in animals in about twenty-four hours, but experience has shown that thirty hours usually elapse before it occurs in man. In the case reported a part of the bile secreted after the trauma found its way into the intestines and was evident in the stools by the fourth day. All the unoperated cases of subcutaneous rupture of the gall bladder terminated fatally sooner or later, while on the other hand, 10 cases treated by puncture alone recovered, and 3 after laparotomy and 5 after laparotomy and removal of gallstones. About 41.1 per cent. of the cases treated by puncture alone terminated fatally, and 20 per cent. of those treated by laparotomy. In Arx's case cystostomy was done, but he regrets that he made a median instead of a lateral incision, as he attributes the lingering of the fistula to the site of the incision. He concludes from his research and experiences that rupture of the gall bladder or biliary passages from the wearing away of the walls by gallstones is a very rare occurrence and seems to be limited to the female sex. The bile in the abdominal cavity is not in itself dangerous. The danger is from the absorption into the blood of the biliary acids. For this reason the bile should be evacuated so soon as perforation of the biliary passages is diagnosed. A laparotomy is preferable to mere puncture. He urges not to wait for symptoms of collapse but to operate at once, and recommends his practice of cleansing the abdominal cavity from the bile with hot saline solution. The peritoneum will bear the brief application of it at even 131 F.

Books Received.

Acknowledgment of all books received will be made in this column, and this will be deemed by us a full equivalent to those sending them. A selection from these volumes will be made for review, as dictated by their merits, or in the interests of our readers.

PROGRESSIVE MEDICINE. A Quarterly Digest of Advances, Discoveries, and Improvements in the Medical and Surgical Sciences. Edited by Hobart Amory Hare, M.D., Professor of Therapeutics and Materia Medica in the Jefferson Medical College of Philadelphia. Assisted by H. R. M. Landis, M.D., Assistant Physician to the Out-Patient Medical Department of the Jefferson Medical College Hospital. Volume IV. December, 1902. Diseases of Digestive Tract and Allied Organs; Liver, Pancreas and Peritoneum—Anesthetics, Fractures, Dislocations, Amputations, Surgery of the Extremities, and Orthopedics—Genito-urinary Diseases—Diseases of the Kidneys—Physiology—Hygiene—Practical Therapeutic Referendum. Cloth. Pp. 422. Price, $1.50. Philadelphia and New York: Lea Brothers & Co. 1902.

A MANUAL OF MATERIA MEDICA AND PHARMACOLOGY, Comprising All Organic and Inorganic Drugs Which Are or Have Been Official in the United States Pharmacopeia, Together with Important Allied Species and Useful Synthetics, Especially Designed for Students of Pharmacy and Medicine, as well as for Druggists, Pharmacists and Physicians. By David M. R. Culbreth, Ph.G., M.D., Professor of Botany, Materia Medica and Pharmacognosy in the Maryland College of Pharmacy. Third Edition, Enlarged and Thoroughly Revised, with 473 Illustrations. Cloth. Pp. 916. Price, $4.75. Philadelphia and New York: Lea Brothers & Co. 1903.

THE PRACTICAL MEDICINE SERIES OF YEARBOOKS, Comprising Ten Volumes on the Year's Progress in Medicine and Surgery. Issued Monthly. Under the General Editorial Charge of Gustavus P. Head, M.D., Professor of Laryngology and Rhinology, Chicago Post-Graduate Medical School. Volume II. General Surgery. Edited by John B. Murphy, M.D., Professor of Surgery, Northwestern University Medical School. November, 1902. Cloth. Pp. 553. Price, $2.00. Chicago: The Year-Book Publishers.

ANATOMY. A Manual for Students and Practitioners. By William H. Rockwell, Jr., M.D., Formerly Assistant Demonstrator of Anatomy in the College of Physicians and Surgeons, Columbia University, New York. Series Edited by Bern. B. Gallaudet, M.D., Demonstrator of Anatomy and Instructor in Surgery, College of Physicians and Surgeons, Columbia University, New York. Illustrated with 70 Engravings. Cloth. Pp. 620. Price, $2.25. Philadelphia and New York: Lea Brothers & Co.

ATLAS AND EPITOME OF HUMAN HISTOLOGY AND MICROSCOPIC ANATOMY. By Privatdocent Dr. J. Sobotta, of Wurzburg. Edited, with Additions, by G. Carl Huber, M.D., Junior Professor of Anatomy and Histology, and Director of the Histological Laboratory, University of Michigan, Ann Arbor. With 214 Colored Figures on 80 Plates, 68 Text-illustrations. Cloth. Pp. 248. Price, $4.50 net. Philadelphia and London: W. B. Saunders & Co. 1903.

ATLAS AND EPITOME OF DISEASES OF THE MOUTH, PHARYNX, AND NOSE. By Dr. L. Grunwald, of Munich. From the Second Revised and Enlarged German Edition. Edited, with Additions, by James E. Newcomb, M.D., Instructor in Laryngology, Cornell University Medical School. With 102 Illustrations on 42 Colored Lithographic Plates and 41 Text-cuts. Cloth. Pp. 219. Price, $3.00 net. Philadelphia and London: W. B. Saunders & Co. 1903.

SURGICAL ANATOMY AND OPERATIVE SURGERY. For Students and Practitioners. By John J. McGrath, M.D., Professor of Surgical Anatomy and Operative Surgery at the New York Post-Graduate Medical School. Illustrated with 227 Illustrations, Including Colors and Half-tones. Cloth. Pp. xiv-559. Price, $4.00 net. Philadelphia: F. A. Davis Company. 1902.

BOOK ON THE PHYSICIAN HIMSELF and Things that Concern His Reputation and Success, by D. W. Cathell, M.D. The Twentieth Century Edition, being the Eleventh Edition Revised and Enlarged by the Author and His Son, William T. Cathell, A. M., M.D. Cloth. Pp. 411, Price, $2.50 net. Philadelphia: F. A. Davis Company. 1902.

THERAPEUTICS OF DRY HOT AIR. By Clarence Edward Skinner, M.D., LL.D., New Haven, Conn.: Professor of Thermotherapy in the New York School of Physical Therapeutics. Cloth. Pp. 200. Price, $2.00. New York: A. L. Chatterton & Co.

BIOGRAPHIC CLINICS. The Origin of the Ill-Health of De Quincey, Carlyle, Darwin, Huxley and Browning. By George M. Gould, M.D., Editor of *American Medicine*. Cloth. Pp. 223. Price, $1.00. Philadelphia: P. Blakiston's Son & Co. 1903.

TRANSACTIONS OF THE TWENTY-FOURTH ANNUAL MEETING OF THE AMERICAN LARYNGOLOGICAL ASSOCIATION, Held at Boston, Mass., May 26, 27 and 28, 1902. Cloth. Pp. 259. New York: Rooney & Otten Printing Co. 1902.

SEVENTEENTH BIENNIAL REPORT OF THE TRUSTEES, SUPERINTENDENT AND TREASURER OF THE ILLINOIS NORTHERN HOSPITAL FOR THE INSANE AT ELGIN, July 1, 1902. Paper. Pp. 83. Springfield, Ill.: Phillips Bros. 1902.

REPORT OF THE COMMISSION APPOINTED TO CONSIDER THE QUESTION OF A STATE SANATORIUM FOR CONSUMPTIVES. Paper. Pp. 74. Concord, N. H.: The Rumford Press. 1902.

BIENNIAL REPORT OF THE ALABAMA INSANE HOSPITALS, for the Years Ending September 30, 1901 and 1902. Paper. Pp. 40. Tuscaloosa, Ala.: Hospital Print. 1902.

RECOLLECTIONS OF THE OLD QUARTER. By Wm. S. Gordon, M.D., Cloth. Pp. 142. Price, $1.00. Lynchburg, Va.: Moose Bros. Co. 1902.

The Public Service.

Army Changes.

Movements of Officers of the Medical Department, U. S. Army, under orders from the Adjutant-General's Office, Washington, D. C., from Dec. 27, 1902, to Jan. 3, 1903:

Cattermole, Charles A., captain and asst.-surgeon, U. S. V., now at San Francisco, will proceed to his home, where he is authorized to await his honorable discharge from the service of the United States, Feb. 1, 1903.

Corbusier, William H., major and surgeon, U. S. A., on the expiration of his present leave of absence, will proceed to Fort Crook, Neb., and report to the commanding officer of that post for duty, to relieve Captain Paul F. Straub, asst.-surgeon, U. S. A., who, on being thus relieved, will proceed to San Francisco, and report to the commanding general, Department of California, for duty to accompany troops to the Philippine Islands.

De Shon, George D., major and surgeon, U. S. V. (captain and asst.-surgeon, U. S. A.), is relieved from further duty in the Division of the Philippines, and will proceed to San Francisco, and on arrival report by telegraph to the Adjutant-General of the Army for orders.

Lyster, William J. L., first lieut. and asst.-surgeon, U. S. A., is ordered to proceed to Ft. Wayne, Mich., for duty.

Russell, Frederick F., first lieut. and asst.-surgeon, U. S. A., is granted an extension of leave for fourteen days.

Stone, John H., captain and asst.-surgeon, U. S. A., is detailed as member of the examining board to meet at Ft. Leavenworth, Kan., vice Lieut.-Col. John Van R. Hoff, deputy surgeon-general, hereby relieved.

Thompson, Louis A., contract surgeon, U. S. A., is relieved from duty at Ft. Thomas, Ky., and will proceed to his home, Dayton, Ohio, and on arrival report by letter to the Surgeon-General of the Army for annulment of contract.

Wells, George M., captain and asst.-surgeon, U. S. A., is relieved from further duty at Fort Wadsworth, N. Y., to take effect on the expiration of his present leave of absence, and will then proceed to Ft. Bayard, N. M., and report in person to the commanding officer, U. S. General Hospital at that post, for duty, to relieve First Lieut. Horace D. Bloombergh, asst.-surgeon, U. S. A., who will then proceed to San Francisco, and report in person to the commanding general, Department of California, for assignment to duty with troops en route to the Philippines, and on arrival at Manila, will report in person to the commanding general, Division of the Philippines, for assignment to duty.

Willcox, Charles, major and surgeon, U. S. A., now at San Francisco, will proceed to Ft. Totten, N. Y., and report in person to the commanding officer of that post for duty, and by letter to the commanding general, Department of the East, to relieve Major Edwin F. Gardner, surgeon, U. S. A. Major Gardner, on being relieved, will proceed to Ft. D. A. Russell, Wyo., and report in person to the commanding officer of that post for duty, and by letter to the commanding general, Department of Colorado, to relieve Captain William F. Lewis, asst.-surgeon, U. S. A. Captain Lewis, on being thus relieved and on expiration of the leave of absence heretofore granted him, will comply with the provisions of Paragraph 17, Special Orders, No. 276, Nov. 24, 1902.

Navy Changes.

Changes in the Medical Corps of the Navy for the week ended January 10:

Medical Director E. S. Bogert, retired, detached from the Naval Recruiting Station, New York, and to continue duty at Marine Recruiting Office, New York.

Medical Director T. Wolverton, retired, ordered to the Naval Recruiting Station, New York.

Asst.-Surgeon J. H. Holloway, commissioned assistant-surgeon from Sept. 26, 1902.

P. A. Surgeon J. A. Guthrie, detached from the *Yorktown* and ordered to the *Vicksburg*.

Asst.-Surgeon K. Ohnesorg, detached from the *Vicksburg* and ordered to the *Yorktown*.

Asst.-Surgeon A. E. Peck, detached from the *Annapolis* and ordered to the Naval Station, Cavite, P. I.

Asst.-Surgeon U. R. Webb, detached from the Naval Station, Cavite, P. I., and ordered to the *Annapolis*.

Medical Inspector F. B. Stephenson, retired from active service, on account of disability incurred in the line of duty, Jan. 3, 1903, to continue duty at Naval Hospital, Portsmouth, N. H.

Medical Inspector S. H. Dickson, detached from the *Iowa*, and ordered to the *Newark* as Fleet Surgeon of the South Atlantic Station.

P. A. Surgeon H. H. Haas, detached from the *Montgomery* and ordered to the *Prairie*.

P. A. Surgeon J. E. Page, detached from the *Newark* and ordered to the *Montgomery*.

Marine-Hospital Changes.

Official list of the changes of station and duties of commissioned and non-commissioned officers of the Public Health and Marine-Hospital Service for the seven days ended Jan. 8, 1903:

Surgeon Preston H. Bailhache, granted leave of absence, on account of sickness, for 30 days from January 6.

Surgeon H. R. Carter, leave of absence for three days from Jan. 5, 1903, under Paragraph 179 of the regulations.

P. A. Surgeon J. B. Greene, relieved from duty at New York (Stapleton).

P. A. Surgeon S. B. Grubbs, to proceed to Guaymas, Mexico, for special temporary duty.

Asst.-Surgeons H. B. Parker, R. H. von Ezdorf, and J. F. Anderson, to report to chairman of board of examiners at Washington, D. C., Jan. 12, 1903, to determine their fitness for promotion to the grade of passed assistant-surgeon.

Asst.-Surgeon D. E. Robinson, relieved from duty at Seattle, Wash., and special temporary duty at Port Townsend Quarantine, and assigned to duty at Port Townsend Quarantine.

A. A. Surgeon J. M. Keyes, granted leave of absence for thirty days from January 5.

A. A. Surgeon F. F. Sams, granted leave of absence, on account of sickness, for thirty days from January 1.

Pharmacist F. L. Brown, granted leave of absence for ten days from December 25.

Pharmacist W. F. Schlaar, relieved from duty at Washington, D. C., and directed to proceed to Boston (Chelsea), and report to medical officer in command for duty and assignment to quarters.

RESIGNATION.

A. A. Surgeon J. M. Keyes, resigned, to take effect Feb. 3, 1903.

BOARD CONVENED.

Board convened at Washington, D. C., Jan. 12, 1903, for the examination of assistant-surgeons to determine their fitness for promotion to the grade of passed assistant-surgeon. Detail for the board: Asst. Surgeon-General W. J. Pettus, chairman; Asst. Surgeon-General G. T. Vaughan; Asst. Surgeon-General H. D. Geddings, recorder.

Health Reports.

The following cases of smallpox, yellow fever, cholera and plague have been reported to the Surgeon-General, Public Health and Marine Hospital Service, during the week ended Jan. 10, 1903:

SMALLPOX—UNITED STATES.

California: Sacramento, Dec. 20-27, 1 case; San Francisco, Dec. 21-28, 12 cases.
Colorado. Denver, Dec. 20-27, 3 cases.
Illinois: Chicago, Dec. 27-Jan. 3, 6 cases.
Indiana: Dec. 27-Jan. 3, Evansville, 1 death; South Bend, 1 case.
Maine: Biddeford, Dec. 27-Jan. 3, 26 cases.
Maryland: Baltimore, Dec. 27-Jan. 3, 1 case.
Massachusetts: Boston, Dec. 27-Jan. 3, 20 cases, 4 deaths; Cambridge, Dec. 27-Jan. 3, 5 cases; Chelsea, Dec. 26-Jan. 2, 1 case; Fall River, Dec. 27-Jan. 3, 3 cases; Lawrence, Dec. 27-Jan. 3, 1 case.
Michigan: Grand Rapids, Dec. 27-Jan. 3, 7 cases.
Nebraska: Omaha, Dec. 27-Jan. 3, 3 cases.
New Hampshire: Dec. 27-Jan. 3, Manchester, 8 cases; Nashua, 2 cases.
New Jersey: Camden, Dec. 27-Jan. 3, 3 cases.
New York: Dec. 27-Jan. 3, Buffalo, 1 case; New York, 4 cases.
North Carolina: Charlotte, Dec. 1-31, 126 cases, 21 deaths.
Ohio: Cincinnati, Dec. 26-Jan. 2, 7 cases, 1 death; Cleveland, Dec. 27-Jan. 3, 7 cases, 1 death; Dayton, Dec. 27-Jan. 3, 10 cases.
Pennsylvania: Dec. 27-Jan. 3, Altoona, 3 deaths; Erie, 5 deaths; Philadelphia, 15 cases, 1 death; Pittsburg, 16 cases, 7 deaths; Williamsport, 1 case.
Rhode Island: Newport, Dec. 27-Jan. 3, 1 case, 1 death; Warwick, Dec. 24-31, 4 cases.
South Carolina: Charleston, Dec. 27-Jan. 3, 4 cases.
Tennessee: Memphis, Dec. 27-Jan 3, 4 cases.
Wisconsin: Green Bay, Dec. 28-Jan. 4, 2 cases; Milwaukee, Dec. 27-Jan. 3, 4 cases.

SMALLPOX—FOREIGN.

Argentina: Buenos Ayres, Oct. 1-31, 12 deaths.
Belgium: Ghent, Nov. 8-15, 1 death; Dec. 6-13, 2 deaths.
Brazil: Bahia, Nov. 29-Dec. 13, 12 cases.
Canada: Quebec, Dec. 20-27, 2 cases.
Ecuador: Guayaquil, Dec. 13-20, 3 deaths.
France: Marseilles, Nov. 1-30, 37 deaths.
Great Britain: Leeds, Dec. 13-20, 11 cases; Liverpool, Dec. 13-20, 56 cases; London, Dec. 6-13, 1 case; Manchester, Dec. 6-13, 3 cases.
Italy: Palermo, Dec. 6-20, 25 cases.
Mexico: City of Mexico, Dec. 14-28, 4 cases, 1 death.
Russia: Moscow, Nov. 29-Dec. 6, 4 cases; St. Petersburg, Dec. 6-13, 16 cases, 3 deaths.
Turkey: Constantinople, Dec. 7-14, 1 death.

YELLOW FEVER.

Colombia: Panama, Dec. 22-29, 4 cases.
Ecuador: Guayaquil, Dec. 13-20, 12 deaths.
Mexico: Dec. 20-27, Tampico, 14 deaths; Vera Cruz, 14 cases, 4 deaths.

CHOLERA—INSULAR.

Philippine Islands: Manila, Nov. 2-15, 184 cases, 124 deaths; Provinces, Nov. 1-15, 252 cases, 170 deaths.

CHOLERA—FOREIGN.

Egypt: Alexandria, Dec. 1-13, 82 cases, 64 deaths.

PLAGUE—UNITED STATES.

California: San Francisco, Dec. 11, 1 case, 1 death.

PLAGUE—FOREIGN.

Mexico: Dec. 31, 1902, Ensenada and Mazatlan, officially reported.

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